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The Health Messenger.
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ANNOUNCEMENT.

Owing to the favour with which the *Northern Health Messenger* has been received throughout England and in some parts of the continent, where it had chanced to alight, and the inconvenience experienced by the news trade and private inquirers through its being supplied from a provincial address, the publishers have removed its "local habitation" and dropped its Northern "name." It will in future be *published in London* as THE HEALTH MESSENGER, for general distribution at home and abroad.

For some time it will continue to be edited from Newcastle-on-Tyne, and private subscriptions should still be sent to the address in that city mentioned above. But the distribution to the News Trade will only be made from London (WALTER SCOTT, 24 Warwick Lane, E.C.), and Newsagents and others are requested to send all trade orders through their London Wholesale House, mentioning the publishers.

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The Health Messenger.

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HEALTH NEWS AND STATISTICS.

STATISTICS being exceedingly dry and difficult of digestion, we usually fill this column with nine parts of news to one of figures. But does not every one like to draw himself together at the New Year, look himself full in the face, as it were, count his money, re-insure his life, and generally see how he stands? Hence, for this time only—statistics.

* * *

BY rare exception, in the last week of 1891 the deaths in the twenty-eight great towns of England were in excess of the births, the number being—deaths, 4,106; births, 3,794. This arose, however, not so much from an unusually heavy death-rate, although that contributed, as from a very low birth-rate.

* * *

THERE were registered in London, for instance, 1,094 fewer births than the average in the same week during the last ten years, and only 42 fewer deaths. Why this should be we cannot explain, unless perhaps the second epidemic of last spring took away the weak people, and the strong failed to make provision for keeping up the average.

* * *

BY far the highest death-rate in the United Kingdom was registered at Newcastle-on-Tyne, when the figures were 45.1 per thousand per annum. This is higher than the present rate in Cairo, which for a long time during 1891 had the lead of the world, reaching over 86 per thousand during the past summer.

* * *

EXCEPT for the great prevalence of influenza, there seems no accounting for the excessive mortality in Newcastle. Old people seem more generally attacked than during the former visits of the epidemic.

* * *

THERE is, however, a very fair average maintained all the year round, and the reduction of the death-rate, although subject to fluctuations,

is very slow and sure. Thus many of the Yorkshire towns, such as Huddersfield, Halifax, Hull, and Sheffield, which showed such a frightful mortality during the early part of 1891, are now comparatively low. Evidently death has a harvesting of aged and weaklings which cannot be repeated twice in a single year.

* * *

It may be interesting to many readers if we give a table of statistics for the great towns in England, and as we extend our circle of readers in other lands we shall at the same time extend our figures to meet their wishes, giving them statistics regarding themselves which they may not always obtain nearer home :—

Cities and Boroughs.	Population estimated to the middle of the year 1891.	Registered during the Week ending 26th Dec. 1891.		Annual Rate per 1000, corresponding to the Week's Deaths from all causes.
		Births.	Deaths.	
28 Towns ...	9,405,108	3794	4106	22.8
London	4,221,452	1462	1771	21.9
Brighton	115,606	38	40	18.0
Portsmouth ...	160,128	79	55	17.9
Norwich	101,316	44	39	20.1
Plymouth	84,464	32	40	24.7
Bristol	222,049	98	107	25.1
Wolverhampton	82,799	27	42	26.4
Birmingham ...	429,906	177	136	16.5
Leicester	142,581	72	36	13.2
Nottingham ...	212,662	72	84	20.6
Derby	94,496	33	32	17.7
Birkenhead ...	99,597	48	33	17.3
Liverpool	517,116	233	279	28.1
Bolton	115,253	47	58	26.2
Manchester... ...	506,469	260	263	27.1
Salford	198,717	88	96	25.2
Oldham	132,010	67	61	24.1
Blackburn	120,496	50	47	20.3
Preston	107,864	46	52	25.1
Huddersfield ...	95,656	32	30	16.4
Halifax	83,109	38	27	16.9
Bradford	216,938	70	94	22.6
Leeds	369,099	154	171	24.2
Sheffield	325,304	173	162	26.0
Hull	200,934	85	65	16.9
Sunderland... ...	131,302	72	68	27.0
Newcastle	187,502	121	162	45.1
Cardiff	130,283	76	56	22.4
Edinburgh	261,970	136	128	25.5
Glasgow	567,143	297	295	27.1
Dublin	347,518	—	—	—

* * *

Amongst foreign cities of which reliable statistics are furnished, Madras heads the list with a death-rate of 67.7. This is occasioned by an enormous mortality from fever and diarrhœal diseases, whilst cholera, although greatly on the decline, is still an important factor. For these maladies impure water is in a great measure responsible, and only a few days ago our correspondent at Madras wrote us that during the recent cholera epidemic Mawson's Filters had been in great demand, and that the government would now have them only for the hospitals and other public buildings.

The fogs in London during Christmas week will long be remembered. Our editorial eyes are not unaccustomed to their murky and tangible darkness, and our feet have oft trod the narrow paths of Paternoster Row; but in crossing out of Cheapside to that paradise of book-worms, we were amazed to find it gone—apparently. In the impenetrable gloom we had, instead of crossing at the correct angle, simply crossed Cheapside and retraced our steps for a short distance; this too at what ought to have been broad mid-day, and (let it not be misunderstood) before the Christmas festivities had set in.

* * *

Only one cure can be suggested for this choking plague, which is not now confining itself to the metropolis, but is gradually extending to Manchester and other great centres: that is, the abandonment of coal as fuel. This, we feel sure, is only a matter of time, for in London, if the proper stoves and fires are used,—let us write it in capitals—Gas is cheaper than coal. Once educated to believe this, which is absolute truth, London will soon cast off its gloomy mantle.

THE DOCTOR'S ACCOUNT.

It is generally considered that the obligations of patients to doctors are sufficiently discharged when the annual account rendered by the family medical man is punctually paid. That, we admit, may be so; but that is the very point to which we desire to bring non-professional readers at the present time, for their annual accounts are not punctually paid. Even some of those who send the doctor a dozen of port or a case of champagne at Christmas withhold from him the far more important consideration of the prompt payment of his account. We are justified in stating that the average doctor seldom receives more than four-fifths of his actual earnings, putting altogether aside the work that he voluntarily does for nothing. When to this is added the fact that the four-fifths are paid in the most irregular of all fashions, some of it remaining on the doctor's books for two or three years, it is easy to understand how a man with a nominally large income may, after he has paid the cost of running his carriage, his assistant, and his wholesale druggist's bill, be left with a net income on which it is almost impossible to get along.—*The Hospital.*

THE PHILOSOPHY OF CLOTHING.

(*Continued.*)

By the Editor.

Thus we see that clothing must possess three essential qualities—that it must be porous, to allow the exhalations of the body to pass away; that it must, however, be sufficiently dense to prevent the too rapid dissipation of heat from the body; and that it must be composed of non-conducting materials, to protect the body from extremes of external heat or cold.

But the far-off celebrities who invented the first garments for mankind were quite ignorant of the laws of hygiene; how then does it happen that so much of our clothing fulfils these conditions? Probably the first dress was adopted for ornament rather than for use, in the sunny clime which was the birthplace of humanity. But as the race migrated into severer regions, where the forest glade was not sufficient shelter from the sun, the atmosphere, and the elements, mankind would become more fastidious in choosing his materials. The stripes of red ochre and the girdle of fig-leaves would give place to bark-cloth and the skins of wild beasts, which covered more or less the whole body. And the varied experience of many generations, combined with the constant reminders of the body as to what was comfortable and what was not, would cause preference to be given to the body coverings most suitable for the particular climate in which humanity found itself. In short, by a process of natural selection the race would adopt what was relatively the best kind of clothing and reject what was bad.

It is first of all essential that what is worn next the skin should be very open and porous, even if the outer garments be relatively close and dense in texture. The perspiration and the general exhalations from the skin can thus pass not only straight *through* the clothing but *along* it and out at the seams and general openings; while if a dense and impervious material be worn next the body, the perspiration cannot escape either way. And the closer the texture of the outer garment, the more porous must the inner covering be. For instance, the stockings must be specially open, just because the leather boots which cover the feet are relatively close, and allow only in a faint degree the skin to act through them. Cotton socks, which are less pervious than woollen ones, are rarely worn except with low shoes, and even then are not comfortable if worn for a few days. Cloth boots with leather soles would probably be much healthier than those composed entirely of leather, if mud and moisture do not occasion danger from catching cold. Cork soles inside the boots, being non-conductors, and yet pervious to perspiration, are better than the bare leather, but they should be regularly removed, and aired at the fire.

The rule of wearing the most porous materials next the body allows the skin to have, as it were, breathing space to work in. No one, unless intimately acquainted with the subject, has any conception of the immense work performed by the skin—of the amount of moisture and gaseous exhalation which it gives out daily. One would imagine, for instance, that, in the matter of bed-clothing, the hair or flock mattress would be sufficiently thick to allow the perspiration from the body to be entirely dissipated; and that except for softness one might as well have a board as the straw or spring under mattress. But if a board or a waterproof sheet be inserted between the two mattresses and examined in the morning after the bed has been occupied, it will be found perceptibly damp on the upper side, causing mould, and rotting the "ticking," if allowed to remain. This proves that a large amount of moisture is exhaled from the body during the night, and shows the necessity for thoroughly airing the clothing and mattresses before the beds are made up.

Porous underclothing, indeed, is as necessary to the action of the skin as ventilation is to

that of the lungs. And as the house, with its drapery and ventilation, is only a kind of extended garment for the human frame, we shall have something special to say on this subject in a future number.

The quantity of clothing worn must vary according to the climate, and especially according to the age, temperament, and vitality of the wearer. Hardly any rule can be laid down, except that comfort should be the first guide. Young, active, and healthy persons, in whose animal economy a great quantity of heat is created, require very much less clothing than the old, the feeble, or persons of slow circulation. To be over-clothed enervates the system and renders one liable to cold; while to be under-clothed may lower the whole vitality to a dangerous degree. Let no rigid rule be laid down, therefore, that because robust Robert takes his wintry walk more comfortably without a heavy overcoat, therefore feeble Frank should do the same. Let clothing be proportioned to the vitality and comfort of the wearer: clothing was made for man, and not man for the clothing.

HIERA PIERA.—During twenty years' experience at the counter we have never heard this old-fashioned remedy asked for by its proper name. Hicra picra is the common and euphonious appellation, but here are a few variations, all of which we have seen written down:—Hiky-piky, ikery-pikery, higley-pigley, hickley-prickley, hickory-pickory. Bitter aloes is another drug having fearful and wonderful synonyms.

INFORMATION WANTED.—Scotia writes to the *British and Colonial Druggist*:—"Can any of your numerous readers inform me of anything which may be put into a dog's food to make it follow its mistress? A lady who has adopted a puppy finds that it will not follow her about. She has been told that something 'to be got from a chemist's,' if put into the food, will bring about the desired effect." We should think a more plentiful supply of bones, with a little more meat on them, followed by a few gentle pats on the head thrice daily, and a certain allowance of time for the puppy to acquire shrewdness and constancy of purpose, would bring about the desired result. If not, we should recommend powdered dragon's blood, which is said to be extensively used by servant girls for retaining the affections of their lovers.

FIRST AID TO THE WOUNDED.

(Continued.)

BY R. PURDIE, M.B.

Shock or Collapse.

WHEN a man is injured, if the injury is at all of a severe nature, whether from a blow, from being run over, or shaken in a railway collision, or from a cut, stab, or broken limb he is very much shaken or upset, his system receives a shock, and for some time he is more or less in a collapsed condition. His face looks pale and pinched, his pulse is weak, his breathing becomes slow, and he feels feeble, faint, cold, and depressed. The lower races are more insensible to pain than the higher, and as we ascend in the scale of civilisation the nervous system becomes more highly organised. In this intense struggle for existence, and in this wearying round of exhausting energies, the strain upon the nervous system becomes much more severe, and is in consequence more liable to suffer from shock. Again, the feeble and nervous probably suffer more than the strong and robust, their vital powers being more easily depressed either from injury or emotional impressions. Women, on the other hand, bear accidents better than men, and rally from them much sooner. Accidents come so unawares else might we have the power of resisting their effects, of pulling ourselves together as it were. Many are thus able by a strong command over the will to delay the appearance of shock for some time. This has been seen, in accidents from the instinct of self-preservation, in the determination to succeed in some enterprise, in the soldier on the battle-field, and in moments of quieter heroism, the system being braced, after severe injuries, against the appearance of shock; but then, after the crisis is over or the object attained, comes as surely the inevitable collapse.

The amount of shock varies in degree from the condition depicted to a passing faint feeling, and depends more or less on the nature and severity of the injury on the part of the

body injured, but also on the temperament of the person, and his susceptibility to nervous impressions. Death may be the immediate result, not directly from the injury but from a profound paralysing influence on the vital powers. It is well known that a blow on the pit of the stomach may thus cause immediate death. Death from lightning is also said to be due to the same cause, and unfortunately we are only becoming too familiar with the terrible effects produced by the electric current.

Collapse is generally most severe in injuries to any of the cavities of the body, where the tissues are much bruised or torn, or where an extent of surface is involved, as in burns, for instance, when the collapse is more to be dreaded than the injury itself; and hence also the great danger to children, who suffer so frequently from this form of injury.

Trivial accidents in some people produce alarming symptoms, the evidence of shock being out of all proportion to the injury received; whilst in others, who may have been severely injured, shock seems remarkable for its absence.

Shock, in some cases, instead of showing the usual symptoms, takes the form of restlessness, with more or less excitement, and tossing about in bed; this is apt to occur in those cases where there has been considerable loss of blood, or where the injured person is suffering great pain. The whole train of symptoms in shock—the depressed vitality manifested by the weak pulse, the shallow breathing, the cold skin, etc.—show the great influence the nervous system has over all the organs of the body. This profound effect is produced not only as the result of accident, but also by a fright, the receipt of bad news, or it may be even by glad tidings if too suddenly announced.

Treatment.—Little difficulty will be experienced in knowing what to do in cases of shock or collapse. The injured person being depressed, he must be spoken kindly to, cheered up, and encouraged. The warmth of the body must be restored by putting him to bed, and covering him with blankets or warm clothing, placing hot-water bottles or heated bricks, or the oven shelf wrapped in flannel, to his feet, and applying friction to his limbs. His circulation must be stimulated by giving him warm tea, coffee, or beef tea; and if the collapse is very severe, small quantities of whisky or brandy in hot water may be administered. To obviate the faintness, the lying-down position must be maintained for some time.

(To be continued.)

CRIMINAL MILK.

(Continued.)

By Henry J. Mackay, M.B.

Recapitulating what has been already said the various morbid conditions occurring in commercial milk might be roughly classified thus:—

(I.) Adulterations by chemicals and other ingredients, purposely added to increase bulk, or give a factitious "body" to poor milk, or to neutralise the acidity of stale milk. This class includes adulteration by added water.

(II.) Contamination due to faulty collection, or imperfect preservation of the milk. This class includes contamination by careless, or dirty milking, by insanitary cowsheds, by the products of infectious disease in the human subject, or by other noxious products. It includes too those putrefactive and fermentative changes which lead to stale milk, and which may occur either before or after it has reached the hands of the consumer.

(III.) Contaminations due to disease in the cow.

It is our intention to make practical remarks on the best ways of dealing with these conditions.

I. As regards the gross adulterations of milk, the evil is fairly well met by the Act dealing with Adulterations of Food and Drugs. Any suspicious appearance, taste, or smell in commercial milk, or any unpleasant effects following its consumption, should lead to a sample being forwarded to the Borough, County, or City Analyst, with a request for its examination. Unwonted sediments at the bottom of the milk jug should be put aside for microscopical examination by a practised observer. In this way starch grains, portions of seeds, chemical salts, pus cells from diseased udders, and other noxious ingredients may be detected. The law is less satisfactory, however, as regards adulteration by the

addition of water. Practically, the law allows such adulteration, provided that the dilution be skilfully performed. The wily milkman has only to reduce the product of the cow, either by the addition of water, or of separated milk, to the modest standard demanded by law—viz., 8.5 per cent. of solids, and 2.5 per cent. of fats, and provided he do not overstep this limit, the law will pat him on the back, and smile on him as an honest merchant. Manifestly this state of things should not be permitted to continue. By raising the standard of total solids to 12 per cent., we should still be receiving only good average milk. Indeed, some American communities who have adopted a 13 per cent. standard, consider that in so doing they obtain milk of good average quality, and no more.

II. The second class of dangers, those arising from contamination of the milk by foul emanations, or dirt, or by diseased products, is also provided against to a certain extent by Act of Parliament, but to a certain extent only. The Registration of Cowsheds and Dairies Act where it is adopted and carried out, requires the registration of all premises concerned in milk traffic in the district, and their periodic examination by the Medical Officer of Health, who has power to prohibit the sale of milk which he believes to be spreading disease. But the Act needs, as a complement to its enforcement, the adoption in the same district of the Compulsory Notification of Infectious Diseases Act, before it can be considered even fairly efficient for its purpose. For where the latter is not in force it is quite possible, since the Medical Officer of Health can neither be ubiquitous nor omniscient, for milk to be exposed to contamination by infectious disease for some time before any knowledge of the existence of the disease reaches the Sanitary Authority. It is certainly necessary that all persons engaged in the milk trade should be subject to the compulsory notification clause, with penalties attached in the case of negligence or wilful omission in the matter of reporting.

Surely, however, it is not enough that milk should not spread acute infectious diseaes. The consumer ought to have some guarantee that his own and his children's food does not contain numerous other potentialities for evil, to some of which reference has been made.

Various moulds and fungi, the bacteria of putrefaction and fermentation, the bacilli of anthrax and tubercle, all these and others find a ready soil and asylum in milk, and render its consumption more or less fraught with danger to children of tender age. There appears to be but one way in which perfect protection from evils of this nature can be insured, and that is by using milk that has been sterilised. For this purpose various methods have been devised, some using heat, and some filtration, as the sterilising agent.

Of the former, the familiar domestic procedure of boiling the milk would, if sufficient means were taken to prevent subsequent access of unfiltered air, be perfectly efficient; and it is to be regretted that the simple but scientific expedient of boiling the milk in flasks or bottles, with the neck protected by a plug of cotton wool, is not more generally known and adopted. Milk treated in this way by the writer has, after two "discontinuous" boilings of one minute each, remained fresh and sweet for a period of several years. The domestic supply, if treated in quart flasks, and brought to the boil gradually on a hot plate, could in this way be sterilised every morning with absolute certainty. In large families, and where larger quantities have to be dealt with, as in crêches and hospitals, the apparatus of Soxhlet of Munich may be recommended as fulfilling every requirement.

The filtration method has been successfully adopted in several places, as, *e.g.*, in the Milk Supply Association of Copenhagen. All milk supplied by this company is sterilised by careful filtration, and supplied to the public in bottles or cans bearing the seal of the Association, and there is no reason why milk-vendors in this country, in large towns at any rate, should not follow this excellent example. We must believe that there exists in all large communities a section of the public sufficiently well informed to understand and appreciate the advantages conferred by such an undertaking, and sufficiently numerous to ensure its commercial success. The Copenhagen Association, which began its operations as a philanthropic undertaking, and conducted its business at a slight commercial loss, now pays all expenses, and returns a five per cent. dividend to its shareholders.

(*To be continued.*)

THE WATER WE DRINK.

(Continued.)

By T. HATFIELD WALKER, L.R.C.P., L.R.C.S.E., F.C.S., etc.; Public Analyst for the City of Carlisle, Late Medical Officer of Health for Longtown District.

THE testing of water is also beyond the scope of this paper. Any water that is not pure to the eye, taste, and smell, should certainly be regarded with suspicion, and either sent to an analyst for proper analysis, or at least be effectually filtered.

Condy's fluid or Permanganate of potass is frequently recommended as a test. A few drops, sufficient to distinctly colour the water, are added to a tumbler of the water standing on a white surface—a sheet of white paper; if the colour disappears within five minutes the water is certainly bad; if the colour persists for more than five minutes it is *perhaps* good. I say "perhaps good," for at best the test is only a very "rough" one, and is of little real value. If a few drops of sulphuric acid are also added to the water and the whole heated to 60°C., the value of the test is very much increased; but even then its indications can only be regarded as approximate. Indeed, even a complete chemical analysis, except in extremely bad or very good waters, is not able to indicate perfect safety or positive danger—it cannot say that a water is certainly safe, or that it will positively cause disease; but when it is supplemented with a skilful bacteriological examination, by cultivation and identification of the "germs" contained in the water, a very fair opinion may be given of the quality of the water.

The purification of water on the large scale as in waterworks is also too extensive a subject to enter on here, and it is not likely that many of my readers will be without a domestic filter. Every one is now aware of the necessity of having drinking water filtered through an efficient filter; but should any have been so careless as to neglect this most important necessity, I should strongly advise them to lose no time before procuring one, and not to delay till an attack of fever in the house brings remorse for their carelessness.

As I said before, the fact that they use the town water does not lessen the necessity; nay, indeed, it makes such a filter more necessary from the fact that the water is constantly subject to the danger of pollution. Moreover,

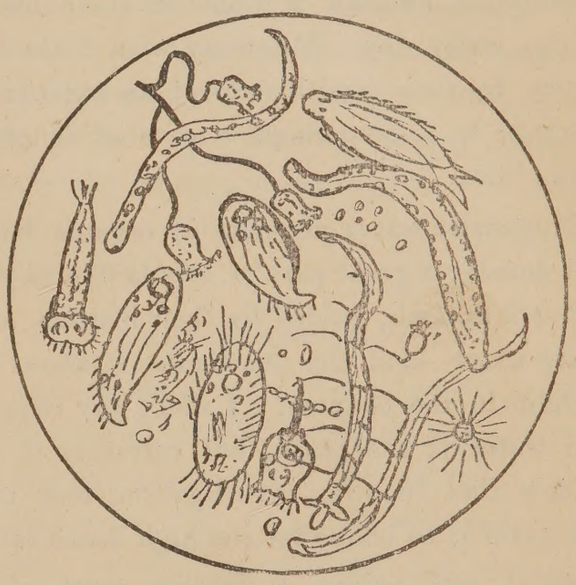


Fig. I.

worms and their ova abound in the mud collected in the mains, and if unfiltered water be habitually used the ingestion of these ova is certain to follow, especially in the case of children.

This class of water also frequently abounds in animalculæ. Fig. I. represents a water

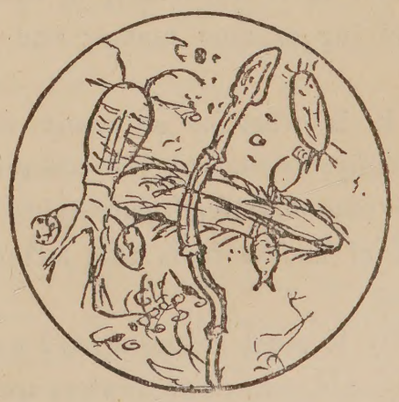


Fig. II.

sent to me for analysis a few weeks ago. Accompanying it was a letter saying that as the water was supposed to be an exceptionally good one it was intended, if my analysis bore this out, to introduce it into a large bakery.

There would have been the consolation in

this case that these horrible "animals" would have been roasted before being eaten; but when an unfiltered water is drank they are frequently swallowed "All alive, oh."

Fig. No. II. also represents a drop of water from a sample sent for analysis a few weeks ago. This is a town water, and the unhappy inhabitants swallow millions of these humble things every day. I daresay with little or no injury to their health (except as regards the worms), so it is perhaps a case of ignorance being bliss.

Newcastle water abounds in organic matter —I daresay a great part of this is due to peat; but still animals, guided by their instinct, avoid peaty water—and the death-rate is about the highest in the country. I don't say that the bad water is the cause, but certainly it is a matter that requires investigation, how much the water is to blame for the high death-rate.

As I said before, I daresay most of my readers possess some kind of filter; but I must impress on them that unless the filter is an efficient one, and unless it be kept in good order, it is often worse than useless, actually even polluting the water rather than purifying it.

Now what are the requisites of a good filter?

First and most important, it must remove all putrefying organic matter and *all disease germs.*

Here it is wherein so many filters fail. Many simply *strain* out the coarser particles, and allow the dissolved putrefying matter to pass, and of course it is this latter that is so dangerous.

Secondly, it must soften a hard water. As I previously said, many hard waters are extremely injurious to health, causing dyspepsia, gravel, atheroma of arteries, skin eruptions, goitre, etc.

Thirdly, it must entirely remove all traces of lead.

Fourthly, it should thoroughly aerate the water, so that it passes through bright and sparkling, drinking with a fresh, crisp taste.

Fifthly, it should separate and destroy all animalculæ and ova.

Sixthly, the filtering medium must be easily and inexpensively renewed. This is a very important point. If the medium is not frequently renewed it becomes saturated with putrefying matter, and thus actually pullutes the water instead of purifying it.

Some years ago I made a number of experiments for the *Sanitary Record*, to determine what was the best filtering medium.

I passed through the various media to be tested both natural and artificially polluted water, examining the effluent water by both chemical analysis and bacteriological cultivation, to ascertain if any of the "germs" that the unfiltered water contained were allowed to pass the filter.

The conclusion I came to was that, taking into consideration all the above requisites for a good filter, nothing answered so well as carefully and properly prepared animal charcoal.

Some of the filters in the market answered very well for a time, but all, except those containing charcoal, failed in some important point. Spongy iron answered next best, I think, but it soon becomes oxidised and useless. It is also difficult to renew, as it becomes all cemented into a hard mass. In one of the filters I tested it was impossible to get it out without breaking the filter. The block filters did pretty well for a short time, but they are not nearly so effectual as the animal charcoal, and they very quickly become useless, the pores of the block becoming choked up with the matter filtered out of the water. When this occurs the charcoal of course loses all its oxidising power, and is of no more use than a thin layer of sand—*i.e.*, it simply *strains* the water and does not purify it.

MOTHER (reading): "And yet the bush was not consumed."

Little Boy (interrupting): "Oh, then I know what kind of a bush it was."

Mother: "Well?"

Little Boy: "Asbestos."

Hints for the Sick-Room.

In speaking of poultices last month we were reminded of the other means by which heat is applied to various parts of the body. We now observe also that we did not give the "philosophy" of poulticing, and as we pride ourselves upon being philosophers before anything, we hasten to correct our sins of omission.

Action of Poultices.

When any organ or part of the body is inflamed, there is an unusual flow of blood in that direction, or, to speak more correctly perhaps, the blood which does flow there is not so quickly passed on, owing to a relaxed state of the nerves which accompany the blood vessels. This may continue to such a point that the blood does not flow at all through some of the local vessels—a state of things which we describe as congestion.

Now it is most important, whether the limb or organ be merely inflamed or in the more serious state of congestion, that nature should be assisted to resume her usual action as quickly as convenient; and one of the agents commonly employed by medical men to assist nature is

Heat.

The action of heat is two-fold. In the first place, it stimulates the part to which it is locally applied, and in some measure draws away part of the circulation from the inflamed or congested member, which is thus relieved at a time of pressure. But its principal action is to increase the vitality of the weak part, to give strength and tone to the nerves, and enable them to resume with fresh vigour the work which, owing to their weak state, has proved too much for them. In this way, where the inflammation is local merely, the stimulation of heat may prevent the formation of matter, or if that has already formed, will bring it to the surface and ease pain. As we have before remarked, heat is food and strength and life, and the poultice is one means of feeding and strengthening and enlivening an organ when other means are too difficult or slow.

We have known an infant suffering from bronchitis to be poulticed every three hours night and day for almost an entire week. A few drops of brandy in a teaspoonful of milk and water occasionally was all the food given during this period, and we feel convinced that the heat from the poultice was not only the means of restoring the action of the respiratory organs, but of supplying the "energy to live" which finally effected the recovery.

Now there are more ways of applying heat than the poultice.

The Fomentation

is an application of hot water on a cloth, and it may be used either plain or with the addition of medicinal substances. For instance, who has not bathed or fomented the face with hot water in which poppy-heads and camomile flowers have been boiled (half an ounce of each to about a pint) to relieve the pangs of tooth-ache? But whatever is added to the water, be sure that the principal agent is the heat. Fomentations should be used as hot as can be borne, and continued (renewing the water as it grows cool) for from ten to thirty minutes. The parts fomented should be afterwards well wrapped in a woollen garment with a cotton one outside. This at once retains the heat and keeps out the effects of cold.

What are sometimes called "dry fomentations" are simply cloths made very hot at the fire and applied to the face or other part. "Dry poultices" is a term which old wives sometimes use when they wish to speak of hot bran, hot sand, or other heat-retaining substances, which are strongly heated in the oven, put into bags, and applied much as poultices are, except that they are dry. If we now mention the hot iron, wrapped in flannel, for the feet, the hot bottle—either "pig" or india-rubber, which may be with comfort applied to any part of the body — surely we have exhausted all the forms of heat? No, indeed, we forgot the great giant of modern days—steam. But of this we must speak again.

SALT AND SIN.

By Charles Cooper.

That "the progress of the human race is partly a matter of diet" has been convincingly demonstrated by the Editor in his recent articles on "The Food of Primitive Man." An earlier writer on food subjects bestowed considerable pains upon the proof of the proposition that the fall of the human race was *entirely* a matter of diet. The literature of food has its curiosities, but no more curious work on dietetics has assuredly ever been written than the now almost forgotten *Revelations of Egyptian Mysteries*, by Dr. Robert Howard, which first saw the light in the year 1851. The chief object of this work, according to its author, was "to pour a new light upon our knowledge of nature, by which the greatest possible benefit might be conferred upon society, and health and happiness beyond measure promoted." This light was evolved from the study of the dark representations of the wisdom of the ancients, in correspondence with the voice of nature and the tenor of Scripture.

Certainly Dr. Howard spared no pains in research. His opening chapters treat of the functions of the terrestrial, vegetable and animal systems. He is great on the volcanic phenomenon, and draws ingenious parallels between it as a morbid affection of the earth and the diseases of the animal body. Then the whole literature and philosophy of the ancient world are passed in review. He has a theory to prove—a theory so stupendous that nothing short of this will suffice. The subtle wisdom of the Egyptians is called in to elucidate the Mosaic story of the creation; the dark sayings of the prophetic books he interprets anew. He writes of the Life of Hesiod, of the Sacrifice and Death of Prometheus, of the Allegory of Pandora, of the War of the Titans, of the War of Jove and Typhœus, of the War of Michael and the Dragon, of the Siege of Troy, and of the purpose of the erection of the Pyramids of Egypt, and he shows how all these worked together to one end —the establishment of his theory as to the real nature of original sin, which was—salt! There was no doubt about it—not the shadow of a doubt; the earth was created to nourish vegetation, vegetation was meant to produce fruit, and fruit was designed as food for man, and when man perversely, disobeying the dictates of nature, passed over, not only the vegetable but even the animal world, and adopted a mineral substance pure and simple as an article of diet, he committed the unpardonable sin which brought disease and death in its train.

For the forbidden fruit was not an apple, or a pomegranate, or anything else of a fruity nature, as some have fondly imagined. It was nothing else than salt. "The tree of life represents the vegetable kingdom, that is, the source and virgin of animate life. The tree of knowledge of good and evil represents the mineral kingdom, with which man was forbidden in any way to interfere." "It is very evident," says Dr. Howard further, "that man's degeneration has been occasioned by his departure from the vegetable kingdom, whose fruits were appointed for his food, and making use of mineral substance which had not by the vegetable elaboration been refined, purified, and converted into a state fitted for his nourishment; and as salt is a substance more likely

than any other belonging to the mineral kingdom to have invited him to its use, there is the greatest reason to believe that the eating of salt did constitute the act of transgression alluded to by Moses."

There is, considering the elaboration and prolixity of Dr. Howard's chain of reasoning, something a little weak in the hasty assumption that Adam's temptation in mineral feeding must inevitably have been salt. It might, with equal show of probability, have been shown to be chalk or bird sand. However, that may be allowed to pass. That the father of mankind, tempted of Eve and the serpent, succumbed, as many of his descendants have done, to the pleasures of the table, acquired a taste for seasoned dishes, and thereby lost his innocence, was an article of faith with Dr. Howard. And mark how the first taste of salt brought its immediate consequences. Man, according to Dr. Howard, was not originally a drinking animal. If he had been, nature would without doubt have provided him with the necessary convenience. As it is, man in a state of nature gets his drink with difficulty. The amount of liquid that he can scoop up in the hollow of his hand is inconsiderable; he cannot lap like a dog, and to lie with one's face over the brink of a stream and drink is both inconvenient and dangerous: let who doubts try the experiment. All this did not affect man in his innocency; then the fruit which formed his diet supplied all the moisture he found necessary. When he took salt he became for the first time thirsty—the first thirst in the world must have been a stupendous experience—and drank water. Now "water," Dr. Howard says, "is in no way suitable for man's drink." In these pregnant words one perceives dimly the beginning of the evolution of the public-house. Primitive and thirsty man was not long probably in coming to the same conclusion as the doctor, though he arrived at it by a different road, so he did his best to improve upon nature's tap, with the result that intoxication came into the world, and crime followed in its train, with Sabbath-breaking, incivility, procrastination, and the other evils which De Quincey deplored.

DOMESTIC AND PERSONAL HYGIENE.

Airing the Beds.

As soon as the bedrooms are empty, throw back the clothes and raise the matresses. Moisture and impurities pass through the skin during the night, and these should be swept away by a current of air.

Airing the House.

TAKING due precautions against the inmates catching cold, the house should be thoroughly flushed out with fresh air twice every day. Once in the morning, after the men have gone to business, but before the beds have been made, and again after the mid-day meal, to remove all odour of cooking. Some houses always smell "stuffy" because the air is not fresh and clean. Five minutes with doors and windows open—excepting the rooms occupied—is sufficient for the purpose.

High Thinking.

WE have several times shown the disastrous effects of mal-digestion upon the temper and animal spirits. Now that Xmas is past we may be forgiven for saying that the proper diet for wits, poets, and inventors, during the critical period of incubation, is weak tea without milk, and dry toast. Thus will tired Nature re-assert herself.

Frozen Pipes.

LET paterfamilias don an old suit, and having found the position of the water-pipes, wrap them closely in six or eight folds of dry newspaper or brown paper, tying it on with string where necessary. Freezing generally commences either at the tap, the ballcock, or at a bend or joint in the pipe; therefore special care should be taken at these points. The expansion of water in freezing is what occasions the burst; a mere thread of water kept running will generally, by giving the expansion play, prevent the pipes from giving way.

Poisons in the House.

AFTER the *immediate* purpose is served, any poison which remains should be promptly and judiciously destroyed. A family has just been

poisoned at Blackburn by some arsenic, which had been carefully placed in a top shelf out of the way, but had been removed during cleaning operations, and had accidently got into a pudding.

Self-Medication.

With the recurrence of influenza a word of warning against the possible dangers of self-medication becomes once more imperative. Many regard this affection as trivial and transitory, and requiring little more treatment than merely remaining at home for twenty-four hours or so; while they are prepared either to ignore medicine entirely, or to fly in reckless, haphazard fashion to quinine, salicin, antipyrin, exalgine, or to any substance which may be widely advertised either for the reduction of fever or the relief of pain. It cannot be too widely known that such a course is fraught with considerable danger, not only from the possibility of serious but insidious complications being overlooked until the patient is perhaps moribund, but also from the fear lest any of the newer remedies should be employed in overdoses. The most casual reference to any work dealing with the synthetic compounds will show that, as a rule, they possess toxic properties, and this fact alone should cause those addicted to self-medication to pause before they act upon the assumption that statements in an advertisement, or even in the columns of the daily press, convey the whole truth. It is true that certain drugs relieve pain and reduce temperature, but it is equally true that, unless they are employed by persons who are properly informed, disastrous accidents will undoubtedly occur.—*Lancet.*

To Silence Crying Children.

Among other Indian ways, we commend to fathers of families the following recipe for training up children in the way they should go:—"While the child, either boy or girl, is very young the mother has entire charge, control, and management of it. It is very soon taught not to cry, by a very summary, if not gentle process. Its mouth is covered with the palm of the hand, while its nose is grasped between the finger and thumb until the little one is nearly suffocated. It is then let go to be seized and smothered again at the first attempt to cry. The baby very soon learns that silence is its best policy."

Rest as a Medicine.

A physician, writing of rest as a medicine, recommends a short nap in the middle of the day, for those who can take it, as a beneficial addition to the night's sleep.

It divides the working time, gives the nervous system a fresh hold on life, and enables one to do more than make up for the time so occupied.

A caution is given against the indulgence of too long a sleep at such a time, under a penalty of disagreeable relaxation. There has been much discussion regarding the after-dinner nap, many believing it to be injurious; but it is, nevertheless, natural and wholesome.

Pure Drinking Water on Shipboard.

Attention has lately been directed to the impurity of much of the water used on board ships at sea, and the consequent prevalence among sailors of such characteristic diseases as dysentery, typhoid fever, and cholera. There is reason to believe that the grievance is no imaginary one, and certainly its importance cannot be over-estimated. Every vessel before leaving port is understood to be provided with a sufficient supply of pure drinking water. Whether she is thus provided or not will of course depend upon the source of supply and the regularity of its renewal, but it is evident that there is always room for errors of judgment or neglect, both in respect of quantity and quality, and if this applies to the case of the ship, it applies with even greater force to that of her boats. The kegs of water stored in these as a provision for emergencies are very apt to be put away and forgotten. It is most needful, therefore, that a careful examination of the condition and contents of all water tanks and barrels should be made at the outset of a voyage. A supply of such purifying agents as alum and charcoal should not be omitted, since by means of these, by boiling and by distillation, faulty water, if no better be procurable, may often be made drinkable. Better still, and much more convenient in use, would be one or more ship's filters of large size. The scandal of disease arising on shipboard from a cause so easily preventable demands, at least, the adoption of these necessary preventive measures.—*Lancet.*

The Limit of Daily Mental Work in Adults.

As to the ability of the human brain to stand continuous work, the following paragraph gives the estimates of various authorities:—"Opinions differ," a writer says, "as to the limit of daily mental work in adults. Dr. Bain, of Aberdeen, says that in that city there are as hard heads and as hard workers as in any other part of Great Britain, but that four hours' steady mental labour are as much as is good for them. Cuvier was usually engaged

for seven hours daily in his scientific researches, but they were not of a nature to require continuous thought. Walter Scott declared that he worked for three hours with pleasure, but beyond about four hours he worked with pain. Dr. Dally, of Paris, says that a man twenty years old cannot do intellectual work with profit beyond eight hours daily. Beyond this limit there will be fatigue, cerebral anæmia or congestion, disgust, and impossibility to work. Generally it is necessary to limit the time to six hours, or even less. But in these times of hard driving and high pressure many men for long years have to exert themselves far beyond the limits set down above as those of safety."

An Undervalued Profession.

Is the chemist a professional man, or is he a mere shop-keeper? Undoubtedly he is a professional man, inasmuch as he cannot practice his calling without passing a somewhat severe examination for a State License. And what better is he for his State License? A great deal better as a public servant, but no better at all as a bread-winner for himself and his family; possibly sometimes worse. Every person who takes medicine seems to be anxious to cut down the chemist's prices. We do not find people grumbling at their butchers, their tailors, or their milliners; and yet where one chemist secures a modest competence, twenty butchers get immoderately rich. But the butcher does not require to pass any examination, and a mere trifle of capital is sufficient to set him up in business in a modest way. Sir James Sawyer the other day gave the public a much-deserved "wigging" on this chemists' question. Sir James, as an experienced physician, is well entitled to speak on the subject. He told the public in set terms that it was by no means wise to be so stingy with its chemists. A great deal of the success of medical practice depends upon the trustworthiness of the drugs employed, and upon the experienced skill of their compounders. But a large section of the public are not willing to pay such prices as will secure first-class drugs; for the skill and experience of the chemist they are not willing to pay anything at all. No doubt it is possible to make up a mixture of Epsom salts or some other cheap concoction at a very low rate. But the average charge for ordinary six ounce mixtures is very moderate. It should be remembered that chemists as a class are well educated and specially trained professional men. It is of the utmost importance that they should be men of culture and character. But the public is going the right way to disestablish men of culture and character, and to force into their places men who have neither culture nor character. We do not appeal to intelligent readers on behalf of a class of ill-used specialists *ad misericordiam*, but we do ask the public to use sufficient sense for the protection of its own interests, and its interests emphatically demand that those who compound its drugs shall be honest, capable, and fairly paid men.—*Hospital.*

SCIENTIFIC AND CURIOUS.

About 60,000 persons commit suicide in Europe every year whose deaths are recognised as such, while at least twice as many commit suicide whose fate is never judicially recorded. The yearly list of European suicides includes 2000 boys and girls. Alcoholism is the chief cause of self-murder in the North of Europe.

Living where there is no Air.—It was Pasteur's great discovery, the finding in 1861 of the micro-organism called the butyric vibrio, the first being known to be capable of living without free oxygen. Since that time many microbes have been found possessing this extraordinary power of vitality. But surely the most extraordinary of them all is the one which M. Perdrix has now found in the water pipes of Paris. He calls it *Amylozyme*. It is a bacillus or rod-shaped organism, and not a vibrio or curved one. It perishes in the presence of atmospheric air, but grows and multiplies in a vacuum or in an atmosphere of the inert gases. It would be interesting to know what this *Amylozyme* gets to live upon in a vacuum.

Poison in the Violet.—Mons. Charles Cornevin, in a work on "Poisonous Plants," states that not only the lily of the valley, but the violet itself, contains poison. The roots and seeds of the violet, he states, are both poisonous. The former have a disagreeable odour in a fresh state, which betrays their

dangerous properties. They produce nausea and nervous affections of the circulation and respiration, while a sufficiently large dose may seriously affect, and even stop altogether, these primary functions of nature, in this way even bringing about death.

YEAST has been sucessfully tried as a remedy for typhoid fever by Dr. Embling, Dr. Lemprière, and Dr. Thomson, of the Alfred Hospital, Melbourne. Thirty-seven cases were treated, ten being severe, the temperatures reaching 104 deg.; eight were moderate, the temperatures being 103 deg.; eleven were mild, and eight were very mild, the temperatures reaching 102 deg. In every case the recovery took place without a relapse. There is a theory to the effect that relapses are due to reinfection from the intestine, and Dr. Thomson remarks in his report that yeast should destroy the bacilli in the intestinal tube, and so prevent reinfection.

A CURIOUS and unpleasant case of explosion is reported in *La Pratique Médicale*. A patient had had compressed tablets of potassium chlorate prescribed for him, and carried them about in his pocket wrapped up in a piece of paper. Judging by what happened, these tablets are as unmannerly in their behaviour, and as much to be avoided, as Whitehead torpedoes. One day on sitting down he was startled by an explosion which was followed immediately by a scorching of his body over an extent of fully nine inches. The tablets, it appears, had come in contact with a penknife, to whose intrusion they evidently objected, but they showed unnecessary warmth—so the patient thought.

SPIDER POISONING.—Some time back Dr. Ralph read a paper on "The Katipo Spider of New Zealand," before the Field Naturalists Club of Victoria, and more recently some further notes were contributed by Mr. Chas. French, F.L.S., the Victorian Government Entemologist, among which he says, "Many years ago the late Dr. Godfrey Howitt, of Collins Street, Melbourne, told me a young woman, servant to some relatives of his at Cape Schanck, was bitten by one of these spiders and died from the effect;" and he also gives several other instances of the very serious effects of the bite of these spiders.

METEORIC DIAMONDS.—Some details of the discovery of diamonds in a fragment of meteoric iron from Arizona are given by Professor Foote, of Philadelphia, in a paper read before the Geological Section of the American Association at its recent meeting in Washington. Professor Foote sent a piece weighing forty pounds to Professor G. A. Koering for examination. It was so hard that a day and a half were occupied in making a section, several chisels being spoilt in the operation, and in trying to polish the surface an emery wheel was ruined. A closer inspection was then made of certain cavities, when small black diamonds were found that cut corundum easily. It is stated that the presence of the gem in meteoric matter was unknown till 1887, when two Russian mineralogists found traces of diamonds in a meteoric mixture of olivine and bronzite.

RELIEF DESIGNS ON EGG-SHELLS.

Get an egg with a thick shell and paint or draw your design on it, using melted fat as the medium for the sketch. Then suspend the egg in strong acetic acid, which will dissolve away the surface of the shell not protected by the fat or grease.—*Chemist and Druggist's Diary.*

ARTIFICIAL CORAL FOR GROTTOES.

Materials required.—Vermilion, 2 drachms; pale resin, 1 oz.; melt the resin and stir in the vermilion. Have ready branches of twigs peeled and dried; paint them over with the mixture while hot. The blackthorn is the best branch for the purpose. Hold these over a gentle fire, turning them round till they are perfectly covered and smooth.—*Chemist and Druggist's Diary.*

TO POLISH SHELLS.

Boil the shells for two or three hours in water with a few lumps of quicklime. When the water has cooled transfer the shells to a vessel containing dilute hydrochloric acid (1 to 3). This will loosen the epidermis, which must then be peeled off. The shells should then be polished with rottenstone and oil applied with chamois leather. Finally they may be rubbed with a little olive oil simply.

IMPROVED MEDICINES AND APPLIANCES.

GLYCERINE SUPPOSITORIES (B. W. & Co.).

Glycerine was originally recommended by Dr. Althaus for the treatment of chronic constipation by the injection of a small quantity into the lower bowel. This method of administering Glycerine was found by many to be objectionable and inconvenient, and it was in accordance with the special request of several physicians that we introduced the Suppositoria Glycerini (B. W. & Co.). These consist of hollow cones of cocoa butter filled with Glycerine, and being stiff and very conical, they can be easily introduced into the bowel, the cocoa butter melts readily at the temperature of the body, and the full action of the Glycerine is experienced. These Suppositories differ entirely from the so-called Glycerine Suppositories composed of an admixture of Glycerine and Gelatine. These latter have caused much disappointment on account of the difficulty experienced in introducing them into the rectum. The B. W. & Co. Glycerine Suppositories, as a rule, will cause defæcation within ten or fifteen minutes after a suppository has been used. B. W. & Co. Glycerine Suppositories are supplied in boxes of one dozen.

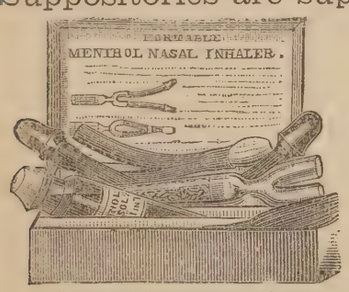
NASO-PHARYNGEAL "TABLOIDS,"

Containing Sodium Chloride, Borax, Boric Acid, Benzoic Acid, Menthol, Thymol, Ol. Gaultheria, and Cocaine Muriate.—ALKALINE AND ANTISEPTIC.

DR. MACNAUGHTON JONES' formula for an antiseptic and detergent mouth lotion, gargle, or irrigation solution for the nares. The difficulty experienced in obtaining solutions for these purposes which will not undergo decomposition upon keeping is well known. A "Tabloid" makes a perfect solution (Cocaine 1 in 6000) in half a small wineglassful of *tepid water*, and such solution may be used as a gargle or lotion for the nares, pharynx, or mouth. *These "Tabloids" will dissolve immediately without crushing or stirring.* The Naso-Pharyngeal "Tabloids" are supplied in bottles of 25 and 100 each, and are dispensed in any quantity prescribed by all chemists.

RECTAL ALIMENTATION.

It frequently is necessary after operations on the larynx, pharynx, etc., that the patient should abstain from taking food for some time by the mouth, and in such cases the zyminized meat or milk suppositories consisting of about a 100 grains of pure Peptone and Cocoa Butter would be very suitable for feeding per rectum. The suppository is made in a very conical form, and after oiling, may be easily introduced into the bowel. It is comfortably retained *in situ*, and is perfectly absorbed, Cases of cancer of the œsophagus, stomach, etc., are on record where patients have been kept alive for weeks on these suppositories alone. In ordering please write Suppositoria Nutritiva, B., W. & Co. Many suppositories of this kind are prepared with Gelatine, and together with the Peptone promote a very fruitful growth of micro-organisms which have in some instances acted in a very deleterious manner upon the condition of the patient. **The Zyminized Meat and Milk Suppositories are supplied in boxes of one dozen.**



THE MENTHOL POCKET INHALER.

FOR INFLUENZA, CATARRH, COLD IN THE HEAD, ETC.—This little instrument consists of a glass tube, fitting into a well-nickled case. The tube contains some absorbent material, which, when saturated with any volatile inhalant, is ready for use. The patient inhales by inspiring deeply from the end of the glass central tube, the air is drawn down between the outer case and the tube and up through the medium, displacing in its progress a large proportion of the volatile inhalant. Patients can carry this little inhaler charged in the vest pocket, and use it at any time of the day without extra precautions.

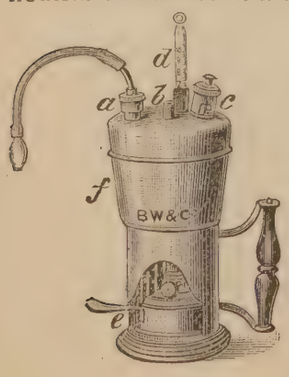
ATOMIZED INHALATIONS.

Of medicaments dissolved in oils or water. The application of medicated vapours by means of an atomizer to the naso-pharyngeal mucous membrane has long been in use. A difficulty, however, presented itself to this method of application, in that many of the substances found desirable to employ for atomization were insoluble in water, and with a view to supplying a suitable solvent, experiments were made with a bland neutral Paraffin Oil (Paroleine). This oil is a ready solvent for the all-essential oils Menthol, Thymol, Oleate of Mercury, Oleate of Cocaine, Iodoform and Salol, and a solution of either of these having been prepared, it may be thoroughly atomized to a fine vapour by means of the instruments figured below. Mr. Lennox Browne has experienced excellent results with a solution of Menthol in acute Rhinitis, **Influenza,** and other affections of the nose and throat. The metallic portions of these Atomizers are made of incorrodible material, may be easily and thoroughly cleansed, and the bulbs being made with specially prepared India-rubber they do not become hard and crack like ordinary rubber material. Paroleine (the bland neutral oil for use as a solvent) is supplied in 4-ounce bottles.

B. W. & Co., Post-nasal Ointment Atomizer.

B. W. & Co., Nasopharyngeal Ointment Atomizer.

THE HOT AIR INHALER.



As suggested by Sir Morell Mackenzie. Recommended in INFLUENZA, dry pharyngitis, laryngitis, bronchial catarrh, ozæna, phthisis, &c. EXPLANATION.—*a.* Box with sponge for inhalants. *b.* Inlet for air. *c.* Safety valve. *d.* Thermometer. *e.* Spirit lamp. *f.* Boiler.

DIRECTIONS.—Three parts fill the boiler with water, and saturate the small sponge in the receptacle marked *a* with the volatile inhalant; then having lighted the lamp the water or oil will soon boil, and the air drawn through the tube by suction at the mouthpiece becomes hot and dry. As the air to be inspired passes through the sponge it becomes thoroughly impregnated with the medicament, and its effect is experienced over the respiratory surfaces, bronchi and lungs.

BURROUGHS, WELLCOME & Co., Snow Hill Buildings, London, E.C., and supplied by Chemists throughout the World.

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

ANTISEPTIC DEVOTION: Let us spray.

VISITOR: "What a cold house this is."
Hostess: "Yes, you see it is recently built, and there's only one coat of paper on the walls to keep the wind out."

CHEMIST'S bell rings violently at 2 A.M.
Chemist: "Well?"
Angry voice yells back: "No, you idiot—ill!"

FIRST COCKROACH: "Whatever shall I find to do with myself to-day?"
Second Cockroach: "Won't you come down and take afternoon insect-powder with me?"

SQUILLS AND TOLU.—A child being given a dose of mixture labelled thus, took it with great patience and remarkable silence. On being asked why she was so solemn, she replied that the bottle was labelled "Squeels not allowed."

A MAN who had been comforting himself with Scotch dew on New Year's Day forgot his message on reaching the railway booking office, and instead of calling out "Third for Wallsend," hiccuped "Glass o' bitter."

A YOUNG man, not long ago, went to consult his doctor about an ailment in his head. After due examination, Æsculapius said his brains were choked up with dirt, and would have to be properly washed and cleaned, and for that purpose would have to be left in his charge for a fortnight—and they were left accordingly. Months afterwards, the doctor met his patient in Grey Street, and slapping him on the back, cried out, "You've never been to my place to get your brains." "By Jingo! I had forgotten all about them. The fact is, I never need them now, because I've got a job under the County Council." A friend of mine, who knows the young man, says it is a Government appointment he has got—not, of course, in the post office.

A BOY who stuttered once went into a chemist's shop for some ipecacuanha wine. "If y-you p-please, I want a p-p-pen'orth of ip-ip-ip ——" Boy behind the counter: "Hooray!" The boy had been "out" the night before.

"CAN you tell me, doctor, if sleeplessness is contagious?"
Doctor: "Why, not exactly; but what makes you ask the question?"
"Because I notice that when our baby doesn't sleep well, neither my wife nor I ever close an eye."

CALLER: "How is the Editor?"
Servant: "A little worse to-day, sir."
Caller: "Can I see him for a few minutes?"
Servant: "No, sir. He told me that he wasn't to be disturbed, as he wants to finish an article on 'How to get strong,' for the *Messenger*."

"MY son," says the elegant Mrs. Dobbs, who has a silk scarf on the back of each parlour chair, and a large *jardinière* with an artificial plant before every window-curtain—"my son has been eminently threatened with brown-keeters, according to the dognoses of our family physician. But a modification in the weather has given him a great impetuous toward recovery."

SURGEONS JUDGED BY A SURGEON.—An amusing incident, at the expense of M. Desprès, the well-known member of Parliament and surgeon to the Charité Hospital, as well as the unflinching opponent of Lister and all his works, took place at a recent debate in the Chamber of Deputies. M. Pelleton, in the course of a speech, remarked that the *rôle* of the Government ought not to be like that of the patient who, suffering from an incurable malady, goes to consult a surgeon, but, arrived at the door, dare not enter.—M. Desprès: "That is often the best thing he could do."—M. Pelleton: "The honourable member is without doubt in a better position than any one to know the danger one runs in seeking a consultation." (General hilarity.)—The President: "I beg of you, M. Desprès, to observe professional secrecy." (Renewed laughter.)

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THE HEALTH MESSENGER

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TO READERS OLD AND NEW.

NUMEROUS inquiries are reaching us for back numbers of the *Health Messenger*, from which we learn that many readers wish to keep the whole series for binding. Copies can still be had of each issue except that of September last, which is now out of print.

We have also been asked who are our agents for the *Health Messenger* in various parts of the country. Now if those obtaining supplies for sale through indirect wholesale sources will inform us of the fact, we shall be enabled thus to answer local inquiries up to date. But we would rather have readers to understand that every newsagent is our agent, and quite willing to obtain the magazine, all the information required being the name of the London publisher. Orders for single copies and yearly subscriptions (1s. 6d. post free throughout the world) may be sent to the Newcastle-on-Tyne office (20 West Grainger Street).

The following Wholesale Newsagents keep *The Health Messenger* in stock, and will supply it to local dealers. Agents will shortly be appointed abroad:—

LONDON	Appleyard, W. J., Poppin's Court, Fleet Street, E.C.; Elton & Co., 1 Hind Court, Fleet St., E.C.; Farrington & Co., 31 Fetter Lane, Fleet St., E.C.; Marlborough & Co., 62 Old Bailey; Simpkins, Marshall, Hamilton, Kent, & Co., 317 Strand, W.C.; Walker, W., 674 Upper Holloway Road.
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The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

DEATH has been busy among the notables of England since 1892 came in.

* * *

ONE prince of the royal blood, in the rosiest hour of early manhood, one prince of the spiritual kingdom, full of years and good deeds, besides a great Baptist bishop and an eminent physician.

* * *

A GOOD lesson in health might be drawn from each of these sad occurrences, but we refrain. It is pleasanter to join in the general regret.

* * *

ONE thing we must say, however, as a warning to our readers. In the matter of health no man can be his brother's keeper—each is the arbiter of his own destiny. Neither love nor skill can stand in place of wise self-regulation.

* * *

THE slight exposure (to cold or infection) of the delicate Prince Albert Victor, or of the overtaxed nervous system of Sir Morell Mackenzie, becomes as fatal to them as to others less highly prized and less carefully tended.

* * *

INDEED, physicians are at present suffering in great numbers from the influenza epidemic, whose attacks are rendered more severe by the great strain of overwork to which the profession has been subjected during the past two months. Medical assistants and nurses have been almost unobtainable latterly.

* * *

SHOWING the importance attached to the infectious character of influenza, it is reported that the Medical Officer of Health entered a meeting of Guardians of the Isle of Thanet on the 28th of January, and interrupted the business by stating that the assisting clerk,

who was in the room and suffering from influenza, should retire, as he was in a highly infectious state. The officer in question at once withdrew.

* * *

As we were reading recently a paragraph headed "Death of a Fasting Man," some one irreverently ejaculated, "Thank goodness, one fool the less to set an example to the others." It is certainly a curious calling, that of starving oneself to make a living, and one from which no scientific end can be gained. The sickening exhibitions of such insane feats of endurance are intolerable to sensible and sensitive persons; and those who pay to view them ought to feel like participators in this man's death. Only the encouragement of a "paying audience" would make it worth a man's while to starve himself.

* * *

THE columns of statistics which we inserted last month, drawn from the Registrar-General's reports, have brought us some letters of thanks and appreciation. We therefore subjoin another list; this time the death-rates in the thirty-three great towns for the four last weeks in January.

* * *

DEATH-RATES IN JANUARY.

TOWNS.	Weeks ending Jan. 9.	Jan. 16.	Jan. 23.	Jan. 30.
Birkenhead	22.1	27.8	26.3	34.0
Birmingham	18.8	20.0	27.2	19.8
Blackburn	26.9	20.9	29.4	37.5
Bolton	22.0	30.5	25.6	27.8
Bradford	16.6	15.7	20.5	20.7
Brighton	37.2	51.5	60.9	24.6
Bristol	24.7	24.0	25.0	27.5
Burnley	20.1	21.9	21.3	21.3
Cardiff	28.3	23.4	24.5	22.6
Croydon	15.7	33.4	39.3	47.2
Derby	22.8	29.4	23.4	25.0
Gateshead	27.1	35.3	21.2	28.8
Halifax	18.6	19.2	19.8	19.2
Huddersfield ...	17.8	14.6	17.3	20.5
Hull	20.6	25.7	19.1	23.9
Leeds	26.4	25.1	20.3	21.8
Leicester	16.2	17.1	15.6	21.2
Liverpool	36.3	42.0	40.0	33.1
London	32.8	40.0	46.0	41.0
Manchester	24.0	26.6	23.9	27.6
Newcastle-on-Tyne ...	43.7	31.5	31.2	22.8
Norwich	31.0	40.1	44.7	39.1
Nottingham	19.9	22.5	19.4	26.6
Oldham	24.5	26.4	23.3	22.1
Plymouth	32.3	21.9	26.2	26.2
Portsmouth	36.0	57.0	44.3	32.5
Preston	24.9	22.5	29.6	23.0
Salford	23.1	24.4	29.0	19.5
Sheffield	25.2	20.3	21.8	20.1
Sunderland	25.1	25.5	23.6	18.4
Swansea	32.8	38.4	29.4	26.5
West Ham	29.5	33.6	30.5	28.8
Wolverhampton ...	35.0	48.1	39.3	30.0

* * *

FROM the above it will be seen that Brighton, which in June last had the lowest rate in the kingdom, headed the list on January 23rd with the enormous rate of 60.9.

BETWEEN LONG LIFE & SUDDEN DEATH.

BY THE EDITOR.

THE chances of life and death do not hang upon catching or avoiding some infectious disease. We remember some words of an eminent French novelist (who is now in an asylum, paying the sad penalty of disregarding the laws of healthy life) with which we strongly disagreed when we read them. He said, "Life is brutal, without sequence, without connection, full of inexplicable catastrophes; of illogical and contradictory events." Now life is full enough of tragedy, but the tragedy generally follows some antecedent conditions which have led up to it. We do not—save in notable exceptions—find a man suddenly break into criminal acts whose previous life has borne good evidence of unbroken honour. Neither does a man suddenly break down in health without previous symptoms declaring themselves, probably over a long period. Fever or influenza rages, and three brothers may be subjected to their infection. One of them entirely escapes, another falls into a fever, and the third is attacked with influenza. How do we account for one escaping, while two are laid low? And why does one recover, while the third dies? The same conditions surrounded each, but the probable explanation is that the resistance of the systems of each was different.

The first difference is in their original constitutions. Even this may be traced to the varying condition of health in their parents over the period during which they were born. Then comes the question of the care they severally received in childhood, the training they have received at the hands of parents, servants, schoolmasters, and school-fellows, the varying strain to which they have been subjected in their encounter with the world, and most important of all, the habits they have formed in the daily current of their lives. Now all these factors in the life history are ten times more powerful than the occasional accident or fever. They make all the difference between a strong, robust constitution, which repels or escapes three fevers out of four, and the feeble one which catches every malady that comes to the door. When we see a young prince, surrounded by all the care and skill that love and unbounded wealth could bestow upon him, suddenly stricken down, we are apt to look too exclusively at the immediate malady, and too little at the condition of health which rendered him liable to suffer.

Accidents, no less than fevers, fall more heavily upon the weak than upon the strong. We have often remarked that the servant or the apprentice breaks more dishes or utensils than usual when a little out of sorts. The clear head, the quick eye and movement—which are all indicative of health—enable the robust to escape many a danger into which the weak would inevitably fall. Misfortunes and sicknesses in the family or in business rarely come singly, simply because the anxiety and care bestowed upon the first, lessens the watchfulness all round, and almost invites others to follow.

The lesson therefore to be drawn from a time of exceptional sickness is this. Take preventive measures and medicines while you may, avoid reckless exposure to infection, and pay strict attention to the slight cold which is not the influenza itself, but only renders you liable to contract it. But first of all, above all, and always, cultivate and maintain those wise and regular habits which insensibly but powerfully tend to health. They are like the sunshine, their action is very gradual, but life really depends upon them. Food, fresh air, work, rest, and sleep—all these should be fully attended to, and none of them out of proportion. Too much or too little of any of them, continued for a time, will undermine the strongest body or mind. Health results from a balance of all the activities. Extremes meet—in sickness and death; seek therefore the golden mean.

Too Literal.—The *Globe* tells an anecdote of a sympathetic Englishman inquiring of a German friend as to the state of his wife's health, and receiving the following alarming reply:—"When she is not lying she swindles," by which the speaker meant to convey that if she did not occupy a recumbent position she fainted (*schwindeln*).

It is reported that Dr. Koch has improved his "Tuberculin" in such a manner that it is likely to have the desired therapeutic action without the added danger of re-infection. Further experiment, however, will probably be undertaken before it is again launched into general practice. We have all along thought that Dr. Koch has suffered greatly from his too great frankness. An invitation to the profession to join in his experiments created a *furore* throughout the whole world which at once obtained for the discoverer unripe praise and unmerited blame. All great schemes and experiments should be hatched in profound privacy.

CRIMINAL MILK.

(*Concluded.*)

By Henry J. Mackay, M.B.

In the absence of any provision, however, either domestic or commercial, for perfect sterilisation, it is desirable that the householder should use some simple precautions for guarding the domestic supplies from contamination. Thus it may be taken as a strict rule that milk, which has been taken into any sick-room, should, if unused, never be returned again for household consumption—that the daily store should be placed where it is impossible for air currents to convey to it contagia or emanations from the sick-room, and that the receptacle containing the milk should invariably be well covered. Dr. Ballard's researches into the causation of summer diarrhœa point to the necessity, in hot weather at any rate, of protecting the household milk from diarrhœa contagion, which may be interpreted to mean "filth" in its subtlest form. The conditions favourable to milk contamination of this kind are the ground air existing in stagnant cellars, ill-ventilated store-houses and larders, confined cupboards, stairheads, and all similar localities.

A consideration of the best means for dealing with the milk supplies for bottle-fed infants would open up a wide field of discussion. It is admitted that the prevailing habits among the poor, of using bottles, foul in themselves, or with the various "fittings," corks, tubes, teats, etc., in a condition of chronic putrescence, are answerable for a large proportion of infant mortality. But it is less easy to bring home to the minds of the nursing community the need, in all matters connected with infant feeding, of absolute cleanliness—cleanliness, that is, which shall not be the conventional absence of visible dirt, but which shall aim at being scientific purity.

Briefly, the following precautions may be suggested:—

1. The use of the "old-fashioned" feeder, with the teat attached to the bottle, in place of those having tubes. There is in the former only the cork and teat to become foul, and these can be easily scalded, and when hopelessly sour, thrown away. Two bottles and many corks and teats are required.
2. The preparing afresh of each feed for the child at the time it is wanted, and cleansing the bottle after the child has fed. Each bottle should be used alternately, the spare one meanwhile, with its fittings, remaining in an alkaline, antiseptic solution.
3. The avoidance for night-feeding of arrangements for keeping warm the whole of the food for the night's consumption. Such "food-warmers," in which fermentible foods are kept for eight or ten hours at a uniform temperature of 90° F. or more, are practically bacterium incubators, and the last portions of such food cannot be wholesome. The same objection of course applies to feeders left in a cot or bed to "keep warm." The food should in every case be mixed and warmed as required, all unused portions discarded, and the feeder cleaned. In hot weather the milk intended for infants should be sterilised, or at any rate boiled on receiving it, and placed in the coldest surroundings available, if possible in a refrigerator.

III. Coming now to the third class of evils, those caused by diseased cows, it must be admitted that the condition of things which obtains throughout the country in this respect is very unsatisfactory. It is notorious that there exist throughout the country many towns and districts where no regulations to prevent the sale of milk from diseased cows are in force, or where no attempts are made to enforce such regulations as exist.

The notification even of contagious disease occurring among cattle is left to the owners of the cattle themselves, who may either from ignorance or from worse motives defer such notification till much evil has ensued. Tubercular disease in cattle is unscheduled, and Professor MacFaydean's statement, already referred to, may be taken as an indication of the open and avowed danger to public health which at present arises from this source, and in which the law practically acquiesces. In districts where the registration of dairies is enforced the inspection of the milch cattle is left to the Medical Officer of Health of the district, who cannot be expected, unless he has undergone thorough veterinary training, to recognise the numerous ailments of cattle which have a prejudicial effect upon their milk.

What is urgently needed in this direction is, 1st, the recasting in a more comprehensive form of the laws relating to dairy cattle and milk supply so as to bring these laws more into harmony with recent sanitary science; and, 2nd, the appointment in every sanitary district, or combination of districts, of a Government official, who shall be a veterinary expert, and who shall be charged with the supervision, by periodical and surprise visits, of all farms and cowsheds in his district. Compensation should be allowed where the prohibition or condemnation of cattle entailed a serious loss to the cow-owner.

The State having enforced preventive measures to this extent, private enterprise might safely be relied on to do the rest. Co-operative dairies might be founded on the system which works so well in Denmark, the contracting farmers binding themselves to observe all the precautions which modern science indicates for the collection and distribution of so important a commodity. Public recognition of the advantages conferred by such enterprises would not be slow, and under the healthy stimulus of competition the standard of our national milk-supply would gradually be raised to the level it ought to occupy, and cease to be what it now is—a reproach to a people who claim to be the pioneer nation in sanitary science.

AMBULANCE NOTES.

(Continued.)

By R. Purdie, M.B.

Concussion of the Brain or Stunning.

Few of us have been so fortunate as to have entirely escaped from the minor effects of concussions. The treacherous slide, the stray orange peel, the slimy pavement, are answerable for many a severe fall on the back of the head; the disagreeable, dizzy, confused feelings produced tending to make us careful of our steps for many a day. In its more severe forms the brain is shaken, the person becomes more or less dazed, or even unconscious, but is generally easily roused, answering when spoken to in a peevish manner, but immediately lapsing back into his unconscious condition, and remaining so for some time. Gradually he becomes restless, tosses about, perhaps becomes sick and vomits—which may be regarded as a favourable sign—and quickly comes to himself. In very severe cases the injured person remains perfectly unconscious and cannot be roused, and it may even be that ultimately the mental faculties may be permanently impaired.

In the treatment of a case of stunning the patient must be placed in the recumbent position, with the head slightly raised; perfect quiet must be maintained; remove all tight clothing from his neck; see that he has plenty of fresh air; apply cloths rung out of cold water to his head; wrap him up in blankets, and put hot-water bottles to his feet.

Compression of the Brain.

A much more severe form of injury to the brain than concussion is that due to compression, either from a piece of bone being driven in on the brain, or from the rupture of an artery inside the head at the time of the accident. In both the brain is pressed upon, and its functions in consequence arrested or destroyed—in the former case by the fragment of bone, and in the latter by the escaped blood forming a clot in the skull cavity.

The person is rendered perfectly unconscious, the pupils of the eye are either unequal or both dilated, and the eye is insensible to touch,—this of course showing how deeply unconscious he is. With the exception of occasional convulsive movements, he lies motionless, snoring loudly, with slow bounding pulse, and more or less paralysed. This of course is a most dangerous condition, though not hopeless. No time must be lost in procuring medical aid, and in the meantime the sufferer must be conveyed either to hospital or to his own home as gently and as quickly as possible, so that the existing mischief may not be aggravated by rough handling. If no medical aid is at hand, the same treatment may be adopted as for concussion of the brain, with this exception, that stimulants must on no account be given.

Apoplexy—Apoplectic Fit—Stroke.

There are few affections which are so unexpected and generally so sudden in their onset, so alarming to the bystanders and friends, or so disastrous in their consequences, as apoplexy of the brain. It frequently happens that for some time previously premonitory warnings have been given that something was wrong, such as giddiness, sickness, headache, etc., which, if heeded and proper treatment adopted, may and often does tend to avert the attack.

Apoplexy is most common in those advanced in years, when the blood-vessels of the brain, either from age or other causes, become weakened and liable to rupture.

In a large number of cases the onset occurs during sleep, the person having gone to bed apparently in good health. Others are attacked whilst engaged in their daily occupations, or whilst straining or exciting themselves by violent efforts—*e.g.*, running to catch a train, vomiting, coughing, etc., or after having indulged too freely in alcoholic liquors.

There is no mistaking the symptoms: the total or partial unconsciousness; the difficulty in speaking; the flushed face; the noisy breathing; the pulse full, strong, and slower than

usual; the dilated pupils; and the perfect paralysis of the arm and leg of one side of the body, but too plainly reveal that the person is suffering from a stroke. A blood-vessel has given way in the brain, blood is effused within the skull cavity, and, being unable to escape, pressed upon the brain, so damaging or destroying its function; hence the loss of sensation and movement in the limbs.

It will be easily understood from the above that the less the patient is moved the better, any disturbing movement tending to increase the internal bleeding, and so lessen the chance of his recovery. All clothing about the body and neck should be loosened wherever it feels at all tight. Slightly raise the head, and apply cold by means of folded handkerchiefs or sponges wrung out of cold water to the head, or bladders of broken ice. See that his feet are warm, do not give any stimulants, keep him as still and quiet as possible, and send at once for medical aid.

HOW TO PREVENT THE SPREAD OF EPIDEMIC DISEASE.

By A. Blair, M.B.

Notwithstanding multitudinous health and nursing lectures, in spite of the advance of sanitation and more general knowledge of the laws of hygiene, not to mention the amount of healthy, useful literature on the subject scattered broadcast over the country, the amount of ignorance of the most simple modes of preventing or limiting the spread of infectious disease in or from individual households among the industrial classes is still often appalling. At some period, for the first time, fever of a contagious character invades the family, and too often finds those responsible for the well-being of its members unprepared for its advent. Parents may not all possess the amount of blissful ignorance of the woman who sent her little girl to the doctor to ask if there would be "any risk" in herself and sisters going to school, though her little brother was "bad with the measles;" but many of them, sufficiently alert and anxious because aware of the danger, are comparatively helpless from want of knowledge of the most ordinary methods of combating its effects.

And to these a few hints may be of use. Let the patient, whether man, woman, or child, be confined to one room, and preferably to bed, except in very slight cases. This room should not be the smallest in the house, but by choice the largest, placed if possible at the top of the house, and well ventilated, not through any other part of the house, but directly from the open air. Remove all unnecessary articles of furniture, including mats, curtains, carpets, pictures, and anything on which dust, possibly containing the germs of infection, is liable to be deposited and retained. Break all communication between the air of this room and the house generally by suspending a sheet, kept constantly moist with some disinfecting solution, so as to occupy the entire doorway. Let no one but the attendants enter or occupy the sick-room, and all articles and utensils in use should be immediately disinfected by rinsing in some disinfecting solution before removal. The air inside the room should be saturated with volatile disinfectants. This is most commonly effected by placing basins containing Condy's fluid in various places; but an excellent and reliable method is to have a pail or tub of water, to which carbolic acid is added, placed in the centre of the floor, in front of the bed, and renewed at intervals. By careful attention to this precaution, an old medical officer of health told me of his treatment of a case of scarlatina, a lying-in woman, and a case of typhoid fever, all in the same room without prejudice to each other, or to any one else in the house.

These few simple measures can be adopted in any house which can boast of two apartments, and by attention to their details not only may much suffering, distress, and anxiety be prevented, but many valuable lives be saved.

Hints for the Sick-Room.

WRESTLING WITH DEATH.

THERE is a strong vein of fatality in human nature which breaks in upon the active but exhausted attendant with the thought, "If it has been to be, it will be." This is entirely contrary to science and experience, and the thought should be resolutely and for ever abandoned. The correct attitude for the nurse, after the doctor has given his instructions, is to follow these instructions to the letter, and never to abate her efforts as long as life lasts. Many a person in the prime of life has had the pillows pulled gently from under him "that he might die easily," and has "passed peacefully away," who might have been saved had those about him understood how the balance between life and death can sometimes be turned in favour of the former. The immediate cause of death in many different maladies is extreme exhaustion resulting from the partial suspension of one or more of the functions. For instance, in a case of bronchitis or inflammation of the lungs, it is at once necessary to restore the action of these organs, which has been greatly lessened by the disease, and to keep up the patient's strength. Should there be signs of imminent death from exhaustion, the attention should for the moment be concentrated upon that symptom alone. If the immediate crisis be averted, then the general treatment should be resumed.

During the crisis the incessant attention of doctor and nurses for many hours—perhaps several days—is required. The life may depend upon a thorough comprehension by the nurse of the doctor's instructions, hence she should take them down in writing, and keep the paper lying beside her for constant reference. We know a nurse of considerable home-nursing experience, who always asks the doctor to tell her what changes in the patient's condition may take place before his next visit, and what steps she shall take if they occur. In this way she is never taken unawares, and rarely needs to act on her own judgment alone.

Here is a copy of her instructions thus taken down in a severe and all but fatal case of inflammation of the lungs:—

Heat of the room, 68° to 70°.
Bronchitis kettle—keep going night and day.—(N.B. —Do not let it run dry.)
Screen the bed from all draughts.
Poultices, back and chest, every two hours.
Cold water cloths to head.

Medicine every two hours.
Hot milk, a cupful frequently (every hour at least).
Arrowroot, thin, every three hours, in place of, or with the hot milk.
Brandy, two teaspoonsful, in milk one tablespoonful, every hour.
Brand's essence of beef, one teaspoonful every hour at least.

In case of extreme danger from exhaustion—
Brandy, one teaspoonful in hot water every twenty minutes.
Champagne, one tablespoonful occasionally instead of the brandy.
Hot bottle to feet and back.

One can easily imagine that here was close occupation for one nurse at least, and as the poultices were large, two persons were actually engaged almost constantly. Those of our readers who have never had experience of this sort would be astonished at the amount of labour involved in such a task. The school-girl's idea of nursing is to sit by the patient's bedside with a pleasant book and a sweet smile. The smile is requisite, and, when the danger is past, the book also; but no work of man or woman can be more arduous than that of a nurse during a crisis. If our readers would like it we should be pleased to show next month the actual "diary" of a night such as we refer to.

IT is estimated that there are two thousand four hundred disorders to which the human frame is liable. When a man is laid up with the rheumatism he is apt to think that the entire number has struck him in concert.

DRUGGIST AND DEAF CUSTOMER.—Druggist (to deaf Customer): "The price is seventy-five cents." Deaf Customer: "Five cents? Here it is!" Druggist (louder): "Seventy-five cents, please!" Deaf Customer: "Well, there's your five cents!" Druggist (very loudly): "I said s-e-v-e-n-t-y-five cents!" Deaf Customer (getting angry): "Well, what more do you want? I just gave you your five cents." Druggist (*sotto voce*): "Well, go to thunder with your medicine; I make three cents, anyway."—*Maritime* (U.S.A.) *Medical News.*

A LIST OF SICK-ROOM ACCESSORIES.

Bed Pan or Chamber—round or slipper shape. This should be warmed with hot water before being inserted under the bed-clothes.

Bed Sheeting—Waterproof. Should always be covered with an old blanket or doubled sheet, as the patient's body should not rest directly upon it.

Bronchitis Kettle. Only used in chest affections. The steam should be brought as near the patient as convenient.

Disinfectants to be placed in saucers about the room and under the bed, and renewed every morning.

Enema Apparatus should be carefully washed in clean cold water, and hung up after use.

Feeding Cups enable the invalid to take food or drink much easier than by the spoon or cup.

Filter (Mawson's) for purifying water. This should not be kept in the sick-room, but in any cool, clean, airy place.

Gasogene, or Syphon, for Aerated Waters. A very useful, nourishing, and digestable drink is made by mixing milk with soda or potass water.

Ice Bags (India-rubber or Waterproof) for the head.

Inhalers, for introducing medicines with the breath, either dry or by the aid of steam.

Lint, Cotton-Wool, Gauze and Cotton Tissue, for surgical dressings, and for absorbing any discharge.

Medicine Measures and Spoons, Scales and Weights, for giving the exact doses. Ordinary spoons vary to a dangerous extent.

Medicine Cupboard or Chest, for keeping all medicines together, the dangerous ones locked up.

Oiled Silk and Gutta Percha Tissue, for covering surgical dressings, poultices, etc.

Respirators, for protection against cold or fog, for administering antiseptic inhalations, and for use in lead works and other dangerous occupations.

Sponges for Surgical or Toilet use should be washed in weak Condy's Fluid, then in soda and water.

Spongio Piline, for fomentations.

Sprays, for the throat, for diffusing antiseptics, hygienic vinegar or perfume.

Syringes, Glass or India-rubber, for the ears and for numerous other purposes.

Thermometers. The sick-room should have an even, unvarying temperature of from 60 to 65 degrees in most illnesses, except those of the chest and in extreme weakness, when it should be kept between 68 and 70 Fahrenheit.

Thermometer (Clinical), for ascertaining the temperature of the body. In health this is slightly over 98 degrees Fahrenheit.

Urinals (male or female), for day or night use—in Glass, Earthenware, and India-rubber.

The Health Messenger.

LONDON: 24 WARWICK LANE, E.C.

LITERARY CONTRIBUTIONS *and Correspondence should be addressed to THE EDITOR, 20 West Grainger Street, Newcastle-on-Tyne.*

ADVERTISEMENTS AND SUBSCRIPTIONS (*1s. 6d. per year, post free*) *to be sent to THE MANAGER, 20 West Grainger St., Newcastle.*

WHOLESALE TRADE ORDERS ONLY: *WALTER SCOTT, 24 Warwick Lane, London, E.C.*

BETWEEN an editor and his readers there should exist a spirit of friendliness and sympathy which should make what he communicates as easy to be understood as if it were spoken face to face. For this purpose, however, it is necessary that he should be impressed with their personality, as well as they with his.

* * *

To a certain extent this is already taking place between us and our readers. We have occasionally been twitted with preaching *at* individuals, notably in our articles on "Melancholy" and on "Health, Temper, and Temperament." Both by letter and by word have we been told that we had "hit hard," whereas the truth is, that if we have ever been unduly severe in our blows, they have been delivered at the image in our editorial looking-glass, wherein we have read the open human heart.

* * *

THE seeming recognition, however, showed that we had read aright certain movements of the heart in relation to the habits of the body. We wish to approach as nearly as we may the standpoint of our readers, to know what aspect of health they most desire to be instructed in. We learn, for instance, that it is the lady of the house who most assiduously reads the *Health Messenger*, who quotes it and consults it, and lays down the law—according to it—to her friends. Shall we therefore ask one of our amiable contributors to open a Babies' Column, or a Beauty Column?

* * *

OUR medical friends, in their busy rounds, must surely see, amongst patients and their families, tendencies for health or disease which might be written upon with great advantage to all. The medical profession is not merely a healing faculty; it is—and will be more and more as the years roll on—an educational body. The hints that prevent sickness are more valuable than the medicines and measures which heal it. And the more freely such instruction is given, the more readily will medical aid be sought when it is needed; for it is only the ignorant who are rash enough to be their own doctors.

But whether medical or non-medical, we should be pleased if our readers would suggest to us subjects of general health interest for treatment in the *Health Messenger*. Only one exception need be made—although even that is by most of our readers well understood—nothing of the nature of medical advice will be given either in particular cases or in general. If we wish clothes to suit us, the "artist in cloth" must study our appearance and dimensions; how much more then do we need to be individually seen and studied when the delicate mechanism of our internal organs requires treatment.

LIGHT AND ITS INFLUENCE UPON HEALTH.

Some recent experiments which have been made upon plants are well worthy of our closest consideration, for inferentially they point out to us a probable explanation for a good deal of ill-health.

In the experiments referred to, two separate lots of the same plant were subjected to varying conditions as regards light. Both lots were exposed to sunlight during the day, but at night one lot was allowed to repose in the dark, whilst the other lot was exposed to the influence of the electric light. The result was that the lot exposed to the influence of the electric light at night developed its parts of stem, leaves, and flowers much more quickly than did the lot which was allowed to repose in darkness during the night. Further examination, however, showed that the fruit of the lot stimulated by the influence of the electric light was a failure as compared with that of the lot allowed to repose during the night. Evidently exhaustion was the result of the abnormal stimulus that had been given, and the energy of the plant had been used up in responding to the calls made upon it, and consequently had no store of energy to fall back upon when the important duty of reproduction devolved upon it.

If we apply the analogy to human life we shall have to admit that the most brilliant achievement of civilisation—namely, artificial light—is not an unmixed blessing. Can any one doubt that the facility of light tempts many of us to steal, from the darkness of night, hours for study and amusement that nature intended for repose and recuperation? Can we doubt that there will be a penalty to pay ultimately in our bill of life for transgressions in this direction?

In speaking of the effect of light upon plants, however, we referred particularly to the injurious effect of the electric light. In that case the factor was of a particularly pure character, but when we come to consider the character of the other artificial lights which we practically use in our houses, we realise that we ourselves are subjected to influences, as regards light, which are infinitely more injurious to us than are those to which the plants were exposed in the experiments. Gas, spirit, oil, and candles all burn at the expense of the oxygen in the air, and reduce its vitalising power; but worse than this, they yield in combustion enormous quantities of carbonic acid gas, which diffuses itself in the surrounding atmosphere, and finds its way into our lungs, interferes with the normal action of the blood, and produces the effect of a slow poison.

The injurious effects of the products of our ordinary artificial lights are not sufficiently understood, or, if understood, the knowledge bears very little fruit. We ought never to forget that the circulation of our blood, the health of our bodies, and the vigour of our minds depend upon the simple fact that we must have pure air to breathe. There is no evidence to show that the incandescent electric light is injurious, provided a proper amount of repose in the dark be allowed; and this is therefore an ideal light so far as health is concerned, provided that we do not cheat Nature of her demands for repose. But all our other ordinary illuminants—such as gas, spirit, oil, and candles—produce products which contaminate the atmosphere we breathe.

The chief product of the combustion of these ordinary illuminants is carbonic acid gas. This is the same gas which we constantly exhale from our lungs and our skin in a condition of vigorous health. Interfere with this exhalation, and the health suffers in direct proportion to the amount and duration of the interference. This is exactly our position with respect to being surrounded with an atmosphere containing carbonic acid gas—the action of the lungs and of the skin is interfered with, and the health suffers in proportion to the quantity and the duration of its influence.

One person in a confined space will soon produce enough carbonic acid gas to poison himself. One gas-burner in a confined space will also soon produce enough carbonic acid to destroy life. There are two factors which we have to deal with at the same time in our lives, and of late years we have done much to provide a remedy for both in the form of improved ventilation. Unfortunately it is far from meeting all the requirements of the case. Ventilators let into the walls, and into the chimney and tops of windows, made to open easily, have all proved useful, but are often attended with draughts of cold wind or of smoke, etc. We look with approbation on every effort to improve in this

direction. There is, however, another method of dealing with this difficulty, and that is by the liberal use of fresh slaked lime. It has been tested and proved equal to the work time after time. It is procurable readily, and it is cheap. In fact it is so cheap that every one neglects it. It could be placed in jars or bowls on wall brackets, etc., and would work wonders in absorbing carbonic acid gas from the atmosphere, and renovate it for active service in our lungs. Its use would enable us to keep our invalid's room in a more healthy condition—particularly in those cases where open windows and ventilators can only be indulged in at long intervals.

It is, however, much to be hoped that the movement in favour of electric lighting will be extended rapidly. Its popular adoption would have the effect of bringing down the cost to something like an approximation to gas, but the question of cost ought to be a matter of very secondary consideration. Our health is of more importance than our purse. We think that when the incandescent electric light gets justice done to it, it will be acknowledged as one of the greatest sanitary improvements of the age, whilst its beauty and convenience will be regarded as only of secondary, though still of immense, importance.

MODERN MEDICINE.

First they pumped him full of virus from some mediocre cow,
Lest the small-pox might assail him, and leave pit-marks on his brow;
Then, one day, a bull dog-bit him—he was gunning down at Quogue—
And they filled his veins in Paris with an extract of mad dog;
Then he caught tuberculosis, so they took him to Berlin,
And injected half a gallon of bacilli into him;
Well, his friends were all delighted at the quickness of the cure,
Till he caught the typhoid fever, and a speedy death seemed sure;
Then the doctors with some sewage did inoculate a hen,
And injected half its gastric juice into his abdomen;
But as soon as he recovered, as of course he had to do,
There came along a rattlesnake, and bit his thumb in two.
Once again his veins were opened to receive about a gill
Of some serpentine solution, with a venom in it still.
To prepare him for a voyage in an Asiatic sea,
New blood was pumped into him from a lep'rous old Chinee.
Soon his appetite had vanished, and he could not eat at all,
So the virus of dyspepsia was injected in the fall.
But his blood was so diluted by the remedies he'd taken,
That one day he lay down and died, and never did awaken.
With the Brown-Sequard elixir they tried resuscitation,
He never showed a symptom of reviving animation.
Yet his doctor still could save him (he persistently maintains),
If he only could inject a little life into his veins.

—Puck.

NATURAL HISTORY OF THE BREAKFAST-TABLE

KOLA NUT.

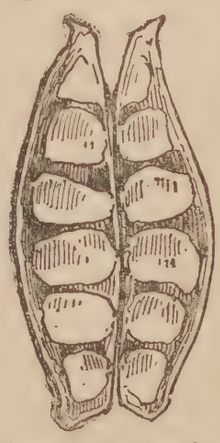
As the Kola Nut and its preparations are firmly establishing themselves in favour as articles of diet, some few details of its origin, history, and properties may not prove uninteresting.

On the west coast of Africa, its native country, the Kola tree commences to yield a crop about its fourth or fifth year; but it is not until its tenth year that it is really in full bearing. A single tree will then yield about a hundred and twenty pounds per annum.

After the tree reaches maturity, the flowering is almost continuous, so that a large tree bears both flowers and fruit at the same time. There are, in fact, two collections of fruit; the summer flowers bearing fruit in winter, and the winter flowers bearing fruit in summer.

As many as five carpels may result from a single flower, and each of these may contain from five to fifteen seeds.

When the fruit is ripe, it takes a brownish yellow colour, and in this condition dehiscence of the capsule commences along the ventral suture, exposing red and white seeds in the same shell.



The epidermis of the seed is the site of the colouring matter, and beneath it is a tissue, consisting of a mass of cells, gorged with large starch granules comparable to potato starch. It is in these cells that the alkaloids, caffeine and theobromine, are found in the free state.

The collection of the fruit is conducted with great care, and is made by women. The seeds

are removed from the husk, and picked out, damaged or poor seeds being rejected, and the selected ones are then freed from their skins and placed in baskets lined with leaves of bal. The seeds are then heaped up and covered over with more bal leaves, which by their thickness and dimensions contribute to the preservation of the seeds by keeping them from contact with dry air. Packed in this manner the seeds can be transported considerable distances, without deterioration. Each of these packages usually contains about 3 cwt. of seeds. It is in this condition that Kola Nut is sent into Gambia and Goree, where the principal dealings in the seeds are carried on. In Gambia they are sold in the fresh state to merchants travelling with caravans into the interior.

As might be expected, the value of Kola Nut increases as it makes its way into the interior of Africa, and it is said that some of the tribes farthest removed from the sea pay for the dry powder with an equal weight of gold dust.

As a medicinal product, Kola Nut is reported to have given good results in cases of periodical and chronic headache, in nervous derangement; but it is as an article of diet that its greatest usefulness is to be looked for. It is reported to be a pleasant stimulant for delicate constitutions, invalids, and convalescents. Kola contains a larger percentage of caffeine than does coffee, and about five times more than tea. It is claimed for it that it is free from those principles which cause coffee and tea to interfere with the process of digestion in so many cases. It has been tried on a large scale by continental and foreign Governments, has given great satisfaction, and has gained some reputation as a means of enabling men to sustain long and arduous exertion.

As regards the methods of using it. The African races chew the powder before meals, and opine that it improves the digestion. On the Continent it has been baked into biscuits for convenience of transit. In this country it is made up with chocolate into a kind of chocolate cake for eating; but its most popular form is that of Paste or Powder, to which it is only necessary to add boiling water or milk to make a hot beverage, which possesses invigorating and stimulating properties superior to tea and coffee, and destitute of the objectionable principles of either, and in this way it is used at meal times, and between

meals, as a sustaining and stimulating beverage. The chocolate is suitable for long journeys, or feats of physical strength, such as are indulged in by athletes, cyclists, and abnormal workers.

COCOA AND CHOCOLATE.

THE difference between these two favourite drinks—or foods, as they really are—may not be known to some of our readers. Both are prepared from the roasted beans of the Cacao Theobroma. Chocolate is a mixture of the ground bean with sugar, and all the nutritive properties of the bean are therefore left intact. Cocoa, in its purest form, is a powdered preparation of the bean alone, relieved of a portion of its "butter." This butter, the most nourishing part of the bean, having been partly abstracted, it follows that cocoa is not so nourishing as chocolate; on the other hand it is more digestable for weak and delicate stomachs. Of

course there are preparations sold under the names of cocoa and chocolate which are chemically "doctored," either to improve nature by giving a brilliant colour, or to increase the weight, and so give a larger profit to the manipulator—we cannot say manufacturer. Some of the cheaper varieties of cocoa are largely mixed with starch and sugar, partly for the sake of giving them a "body," but mostly for pecuniary reasons which do not favour the consumer.

We do not wish to say a word against the few celebrated English makers of cocoa, but we should like to draw attention to that used for many years in the Belgian royal household, and manufactured by Messrs. Delacre & Fils, Vilvorde, Brussels. It is about twelve years ago since we first made Mr. Dalacre's acquaintance, and had the pleasure of going over his well-ordered establishment. We could say much that is interesting about the head of the firm, whose idea of success in life is not confined to "piling the almighty dollars." As a conscientious gentleman and a skilful chemist, his pride—where business is concerned—is in the excellence of his products. His cocoa we know of old, and for delicacy of flavour and easy digestibility, it is simply unsurpassed. We recommend our readers to give it a trial.

SCIENTIFIC AND CURIOUS.

Ammonia as a Fire Extinguisher.—In the *L'Union Pharmaceutique*, Monsieur Jeanneau, pharmacien at Savernay, relates how he successfully extinguished a fire upon his premises which broke out in a store from the spontaneous ignition of gazoline, and which had for half-an-hour resisted the efforts of the firemen. He threw into the blazing apartment a glass carboy containing six litres of ammonia; the flames which were threatening to spread were immediately extinguished, torrents of black smoke coming from the door of the room, but no fire. So thoroughly was the fire extinguished that almost immediately it was possible to enter the room and remove an iron drum still containing 50 litres of gazoline which some seconds before was burning with a flame nine feet high. English pharmacists should note this; solution of ammonia is almost always at hand, and thrown in good time on to a burning mass might at any time prevent a disastrous fire.

How to Grow Teeth.—According to the *Kolnische Volkszeitung*, a Moscow dentist appears to have solved the problem of supplying the human mouth with false teeth which will grow into the gums as firmly as natural ones. Dr. Znamensky has performed several successful operations on dogs, as well as human beings. The teeth are made of gutta-percha, porcelain, or metal, as the case may be. At the root of the false tooth holes are made. Holes are also made upwards into the jaw. The tooth is then placed in the cavity. In a short time a soft granulated growth finds its way from the patient's jaw into the holes in the tooth; this growth gradually hardens and holds the tooth in its position. It is stated that it does not matter whether the cavity in which the tooth is to be placed is one from which a natural tooth has been recently drawn, or whether it has been healed for some years.

Cheap Drugging.—This doing business at a loss or within the very narrowest margin of profit in order to draw away custom from regular shopkeepers is pursued in many other departments, notably in the drug department of stores. No competent chemist could afford to make up medicines at absurdly low rates; but he is undersold in order that the emporiums may obtain a spurious reputation for cheapness, and be the better able to empty the pockets of the eager flies who flock into the net thus cunningly woven for them. For it is surely plain that this artificial cheapness, this commerce at a loss, must be made up for by dearness in other directions, if the store is to provide the high dividends for which the shareholders hunger and thirst.—*Sunday Times.*

Killing or Curing.—It is stated that the Panama Canal Company used two hundred thousand ounces of quinine yearly during the progress of the works. This drug appears to have been the only form of medicine on which any reliance could be placed for the treatment of the various forms of fever in existence on the Isthmus. The most pernicious type of

malarial fever almost invariably attacked newcomers, but the numerous deaths which occurred were not all due directly to fever. Fright, no doubt, aggravated matters, and many of those employed on the works were in the habit of taking as a preventive a teaspoonful of sulphate of quinine in rum or vermouth every morning on an empty stomach, so that the drug soon became powerless for good, owing to the system becoming inured to its action.

STONE IN THE STOMACH.—Dr. Kooyker has reported in the *Zeitschrift für Klinische Medicin* another case of gastric calculus—a condition which, though common enough in animals, is so rare in man that so far only seven cases have been reported. Dr. Kooyker's case was that of a man fifty-two years old, in whose lifetime it had been impossible to make a positive diagnosis, though some neoplasm of the stomach was suspected. The patient died from exhaustion. At the post-mortem examination a concretion was found in the stomach, almost entirely filling its cavity, which weighed 885 grammes, and was eighteen centimetres in length. The microscopic examination resulted in finding starch, vegetable cells, chlorophyll, and vascular tufts, while hair and other animal elements were entirely absent.

TO TAKE PRINTS OF LEAVES, ETC.—Very accurate and beautiful prints of leaves may be obtained in the following manner:—First get a sheet of fine writing-paper, and oil it well with olive oil until the paper has pretty well absorbed the oil. Hang the paper in the air to dry until there are no longer any globules of oil upon it. Then move the oiled side of the paper horizontally over the flame of a lamp or candle until you have a smooth black surface. Now lay your leaf carefully and smoothly on this blackened paper, and, laying another piece of paper over it, rub it carefully and firmly with your finger for about half a minute. Next take the leaf, and lay it on the page or sheet of paper on which you want to get your impression, cover it with blotting-paper, and apply gentle pressure as before. If you are careful you will be able to obtain several beautiful impressions from the same leaf.—*Chemist and Druggist's Diary.*

DOMESTIC AND PERSONAL HYGIENE.

Baby's Cot

SHOULD not be placed on the floor, as that is the position most dangerous for catching cold. From under the door, and from the skirting-board all round the room, may come currents of air which make straight for the fire, and their direct line of passage is along the floor. Place the cot on two chairs in the centre of the room, if you want the safest position.

Children's Teeth.

CHILDREN'S second teeth frequently come crowding into the mouth before it is large enough to accommodate them. The scientific explanation of this was given in a recent number of the *Health Messenger;* but the practical advice given by Mr. Alexander Kirby is that one or several teeth should be removed to make room for the rest. In the majority of cases Mr. Kirby is of opinion that the six-year-old molars should be sacrificed rather than the bicuspeds, because this treatment gives more room. Overcrowding favours decay, by causing particles of food to be lodged in the small interstices. To prevent this the teeth should be daily brushed, and the mouth rinsed with Contra-Septine.

Moths Love Dust,

DARKNESS, and ill-ventilated drawers and boxes. Last summer was prolific of moths, and the eggs were all laid then which will play such havoc in the spring. Empty and dust your drawers, boxes, and wardrobes, vigorously shake or brush all clothes, and plentifully sprinkle with fresh insect powder while yet there is time.

Haste Not

IF you would live long and bear fruit. In an article upon "Light" this month we show that plants that are subjected to the electric light at night make more growth than those which depend upon the sun alone. But when fruit-time comes they are a long way behind.

Haste Not

OVER your meals, or after your meals. Yet do not linger so long that you are obliged to hurry

afterwards. A friend of ours, living within thirty yards of a station, used to delay putting on his boots until he heard the train coming. He barely caught the trains each day, and gradually injured his heart and chest.

Writers' Brains.

EVERY writer in Europe feels an interest which he never felt before in the private lunatic asylum where M. Guy de Maupassant is now confined. So far as can be gathered from published statements, M. de Maupassant owes his present calamity to three circumstances: he worked at high pressure; he took stimulants to whip up his brain beyond its natural working capacity; and then he took sedatives to quiet the brain down when he wished to go to sleep. Writers have to a large extent the making of the modern world in their hands. They have taken the place of ancient prophets, modern preachers, and despotic rulers. They speak to the world in the only tones which can really command its attention—the tones of argument, of persuasion, of knowledge. Those teachers teach the world; but who teaches the teachers?

M. de Maupassant produced, as we have said, ten considerable independent works in ten years. To do that he must have worked his brain at high pressure. If he had taken the trouble to make himself master of a little of the elementary science of the times, he would have known that ten years of brain work such as his demanded for the preservation of his thinking instrument certain positive counteractions. He should, for example, have limited himself strictly to a certain number of hours of daily work; he should have worked in the early part of the day in order that the abnormally active brain might to quieted down and rested before the arrival of the time for sleep. He should have taken a considerable amount of physical exercise every day for the purpose of balancing brain activity and blood-flow by muscular activity and blood-flow; he should have lived much out of doors in a pure atmosphere, so that the blood might have been well oxydised, the waste tissues clean carted off, and the brain and body highly nourished and thoroughly recuperated.

Instead of all this, what did M. de Maupassant do? He worked at his utmost capacity of speed and intensity. When he found himself flagging, he whipped his brain with stimulants instead of resting it. When he wanted rest he found that rest would not come; he could not rest naturally, and so he drugged himself into artificial rest, which was not rest, but the stupor of poison. All the papers speak as if M. de Maupassant had gone mad for the first time on the day when he attempted suicide. The physiologist, who knows best in these cases, considers that he went mad when he first began to whip himself to work with stimulants, and to drug himself to sleep with narcotics.—*Hospital.*

Lamp Accidents.

THE usual string of lamp accidents has been of late taking place. One occurred the other day at Preston, where a woman was found lying on the floor enveloped in flames, whilst close by her was a broken paraffin lamp. The staircase was also on fire. It was thought that the woman had fallen downstairs with the lamp in her hand. It is grossly unfair on the part of some newspapers to attribute so many of these accidents to the fault of the lamps. We have repeatedly pointed out that with ordinary care lamps are perfectly safe. But the best lamp ever made would not be proof against a stumble when carrying it, or a table becoming overturned when a lamp is on it, or a similar mishap. Notwithstanding all the accidents which take place, it is clear that the use of oil lamps is rapidly growing in favour. Oil is better than gas from a health point of view, and infinitely preferable as non-injurious to decoration and furniture.—*British Mercantile Gazette.*

The Phonograph in Medicine.

THE applicability of the phonograph to the record and demonstration of defects in speech has been well illustrated at the Royal Medical and Chirurgical Society and at the Hunterian Society. At the first-named two medical gentlemen were able, by means of one of these instruments, to allow the members present to hear the curiously defective speech of two children, and to contrast this with the improvement effected by treatment, for the subjects were present; and after the phonograph had given their past utterances, their present speech was demonstrated *viva voce.*

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IS SWEET AND PALATABLE
When prepared as directed with
ZYMINE (EXTRACTUM PANCREATIS)
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COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

"FIZZYOLOGISTS" is what druggists are called out West if they keep soda water on tap.

PROVIDING A REMEDY.—"I just dote on your daughter," remarked young Goslin to Lizzie's mamma. "Then I will supply the antidote," was the old lady's retort.

SOAP was not invented until the sixteenth century, and did not come into general use until still later. The "dark ages" are at last accounted for.

THE LATEST WANTS.—"Antiquarian powders for a headache." A wholesale house in the neighbourhood of the High Street was asked the other day for "1 once avizandum," but not having the article in stock, the customer was referred to a big shop further up the street near St. Giles.—*Edinburgh Chemist.*

IRREGULAR action of the heart is sometimes shown by the pupil of the eye becoming dilated. A learned professor was descanting upon this before his students, exhibiting the case of a patient at his side. "Would you like to see it closer, doctor?" said the latter, and, plucking out his eye, handed it to the professor. It glistened because it was glass.

I REMEMBER on one occasion being consulted by a gentleman who was second in command in a department involving not only heavy work, but great worry. He was suffering from dyspepsia, and looked thin and worn. I examined him most carefully, and could find absolutely no cause for his symptoms. Knowing, however, the conditions under which he was working, I said to him, "How is your chief?" "He is not well." "Is he irritable?" "Yes, very." "Who is physicking him?" "Dr. So-and-so." I returned him his fee, and said, "Go to Dr. So-and-so and tell him to physic your chief; it is of no use for me to try to cure you with medicine." I met my patient some time afterwards, who, with a sly glance at his chief, whispered to me, "Your prescription was very efficacious."—*Dr. Laudor Brunton.*

A PHYSICIAN'S APOLOGY.—A Scotch medical practitioner, not quite so celebrated as Galen, undertook to cure a person of deafness, with which he was sadly afflicted. One lotion after another had been prescribed, but still the patient was shut out from hearing from his fellow-men. "I've just come ance mair to ye, doctor," said his wife, "to see if ye can gie John something better, for the last bottle ye gied him did him nae gude ava'." "Dear me," said the doctor; "did it no? I'm surprised at that; but it matters little, for there's naething gaun worth the hearing just now."

HE WANTED SALTS.—"Yes, people make some amusing mistakes regarding the Latin names of drugs," said a South Side dealer. "We can usually guess at what they want, but if drugs were called by their simple English names I think it would be better and safer. A few weeks ago a man brought a prescription from a doctor for sulphate of magnesia, remarking, as he presented it: 'That doctor may know his business, but I think a dose of salts is about all I need.'" Here's something I clipped out of *The Herald* a long while ago that I think is to the point—

Can't druggists talk United States? If so, why not renounce
Those vile, outlandish Latin names that no one can pronounce?
Why not use terms that even common folks can figure out,
And not hide everything behind a lot of Latin doubt?
Why must they call our common salt chloride of sodium,
And common lime be labelled as oxide of calcium?
Our laughing gas to them is protoxide of nitrogen,
Is water purer when 'tis called oxide of hydrogen?

The common people have no use for oxides and their kin,
For who would guess mosaic gold is bisulphide of tin?
So sulphites, chlorides, carbonates, and all that sort of stuff,
Should be supplaced by common names—they're plenty good enough.
'Tis really sad to have to swallow drugs in any form,
But these dread names they give them fill our being with alarm.
No wonder a suspicious soul in awful terror halts,
When sulphate of magnesia's given him instead of salts.

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THE HEALTH MESSENGER

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ACROSS THE SEAS.

As the postal wave carries our announcements abroad, so does the returning tide bring us news of fresh readers in other lands. We desire to point out, however, that only ENGLISH postage stamps can be accepted in payment of subscriptions. Even United States' adhesives fail to find acceptance with the English Postmaster-General. We shall therefore be obliged if our friends across the seas will remit in postal orders or notes, for each yearly post-paid subscription to

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LONDON ..... Appleyard, W. J., Poppin's Court, Fleet Street, E.C.; Elton & Co., 1 Hind Court, Fleet St., E.C.; Farrington & Co., 31 Fetter Lane, Fleet St., E.C.; Marlborough & Co., 62 Old Bailey; Simpkins, Marshall, Hamilton, Kent, & Co., 317 Strand, W.C.; Walker, W., 674 Upper Holloway Road.
BIRMINGHAM. Beacon, A. G., Criterion Buildings, Pershore Street.
BRADFORD ... Bilbrough & Kitchingham, 9 Dale Street. Woodhead, J., 124 Westgate.
CHESTER..... Jones, T. W., 58 Town Hall Square.
EDINBURGH. East of Scotland Newspaper Agency, 249 High Street. Menzies & Co.
GATESHEAD.. Johnson, R., 27 West Street.
GLASGOW ... Barr, W., 42 Dumbarton Road. Graham, R., 110 Eglington Street.
LEEDS ..... Morrison, N. G., Bishopgate Street.
LEICESTER ... Oldershaw. C., Granby Street.
MANCHESTER Heywood (Abel) & Son, Oldham Street.
MEXBORO' ... Office of *Mexboro' and Swinton Times.*
NEWCASTLE-ON-TYNE. Ross, C. C., The Side. Scott, G. W, 30½ Westmoreland Street
OLDHAM..... Pollard, G., 13 Union Street.

The Health Messenger.

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HEALTH NEWS AND STATISTICS.

SIGNS OF THE TIMES.

THE profession of medicine is one of the most dignified callings in which men and women can engage.

* * *

BUT its true dignity lies, not in the deservedly high status of its members, nor even in their culture and scientific attainments, but in the social purpose they fulfil—the alleviation and prevention of human suffering, the saving of human life.

* * *

FORMERLY, however, in the dark middle ages that long preceded the publication of the *Health Messenger*, medicine was a Mystery—whose profundity baffled even the wisest of its practitioners; and the sense of this mystery, added to the gold-headed cane which he carried, gave to the Leech such a bearing that, as was said of a famous judge, "no man could possibly be as wise as he looked."

* * *

IN those days, then, it was the Mystery which gave dignity to the profession, and if any *apothecarie* or *physycke doctour*, by reason of vanity, lust of gold, or love of mankind, discovered to the unholy public gaze any part of this mystery, he suffered grievously at the hands of his brethren. Of a truth the professional outlawry which was passed upon him sometimes caused him to degenerate, so that he retaliated upon his assailants with scurrilous words which were all the more bitter because they might not be repudiated.

* * *

HENCE it became the duty and etiquette of the profession to guard the mysteries of the body and its means of salvation, just as the mediæval monks guarded the Holy Scriptures from the gaze of the common people, and to look upon those who enlightened the darkness as worse than heretics.

In modern times, however, thanks to the noble discoverers who have adorned the profession, the human body is an open book in which all who will may read to their profit. And while the practice of medicine, like every other skilled craft, can only be safely exercised by those who have given their lives to it, there is much information regarding the laws of health and disease which, like the common Bible, should be in the possession of every one.

* * *

Notable men, some of them foremost in their calling as well as in their social feeling, are now ready to impart that knowledge freely and publicly, in the form of health lectures, ambulance lectures, and lectures on the human body. In the matter of publication, too, the rigour of professional etiquette is being relaxed, it being recognised more and more that what is done as becomes a gentleman, becomes therefore the medical man.

* * *

Indeed "Health Societies," promoted and organised by the most eminent in the profession, are in existence in many of the large centres, where by every means of publicity knowledge of the human body, and of the great laws governing health and disease, is freely given to the masses. No one knows so well as the doctor how largely the life of a patient depends upon the intelligent carrying out of his instructions by relatives and friends, as well as by the patient himself. Hence it is to his (the doctor's) interest that men and women should be intelligent in all that pertains to human life. The modern hero—unlike the ancient one—is he who saves life, not the soldier who destroys it, and this is what sustains the doctor in his arduous and often unremunerative duty.

Signs of Other Times.

Harvey, who first discovered the circulation of the blood, was styled "vagabond or quack," and persecuted through life.

Ambrose Parc, in the time of Francis I., introduced the ligature as a substitute for the painful mode of staunching the blood after the amputation of a limb—namely, by applying boiling pitch to the super of the stump. He was, in consequence, persecuted with the most remorseless rancour by the Faculty of Physic, who ridiculed the idea of putting the life of a man upon a thread, when boiling pitch had stood the test for centuries.

Paracelsus introduced antimony as a valuable medicine; he was persecuted for the innovation, and the Irish Parliament passed an Act making it penal to prescribe it; whereas it is now one of the most important medicines in daily use.

The Jesuits of Peru introduced into England the Peruvian bark (invaluable as a medicine), but being a remedy used by the Jesuits, the drug was at once rejected as the invention of the devil.

In 1693 Dr. Groenvett discovered the curative power of cantharides in dropsy. As soon as his cures began to be noised abroad, he was committed to Newgate by warrant of the President of the College of Physicians for prescribing cantharides internally.

Lady Mary Montague first introduced into England small-pox inoculation, having seen its success in Turkey in greatly mitigating that terrible disease. The faculty rose in arms against its introduction, foretelling the most disastrous consequences; yet in a few years it was generally adopted by the most eminent members of the profession.

Jenner, who introduced the still greater discovery of vaccination, was treated with ridicule and contempt, persecuted and oppressed by the Royal College of Physicians, yet he subsequently received large pecuniary grants from Government for the benefits he had conferred on his country by making known his valuable discovery.—*Pharmaceutical Students' Monthly.*

Vital Statistics.

Cities and Boroughs.	Population estimated to the middle of the Year 1892.	Registered during the Week ending 27th Feb. 1892		Annual Rate per 1000, corresponding to the Week's Deaths from all Causes.
		Births.	Deaths.	
33 Towns ...	10,185,736	6449	4571	23.4
London ...	4,263,294	2694	1829	22.4
West Ham ...	217,113	165	69	16.6
Croydon ...	106,152	60	29	14.2
Brighton ...	116,424	59	40	17.9
Portsmouth ...	163,667	103	79	25.2
Plymouth ...	85,610	62	38	23.1
Bristol ...	223,592	130	131	30.5
Cardiff ...	136,181	85	57	21.8
Swansea ...	92,344	68	42	23.7
Wolverhampton	83,519	61	40	25.0
Birmingham ...	483,526	354	219	23.6
Norwich ...	102,736	73	48	24.4
Leicester ...	177,353	114	73	21.5
Nottingham ...	215,395	114	113	27.4
Derby ...	95,908	53	55	29.9
Birkenhead ...	101,264	72	54	27.8
Liverpool ...	513,790	376	292	29.6
Bolton ..	116,201	80	57	25.6
Manchester ...	510,998	311	245	25.0
Salford ...	201,058	149	102	26.5
Oldham ...	134,221	70	68	26.4
Burnley ...	90,589	59	59	34.0
Blackburn ...	122,238	92	63	26.9
Preston ...	109,038	72	57	27.3
Huddersfield	96,599	31	33	17.8
Halifax ...	84,097	41	53	32.9
Bradford ...	219,262	95	83	19.7
Leeds	375,540	187	154	21.4
Sheffield ...	329,585	199	137	21.7
Hull	204,750	127	72	18.3
Sunderland ...	132,839	88	50	19.6
Gateshead ...	88,588	76	35	20.6
Newcastle-on-Tyne	192,205	129	95	25.8

THE PENDULUM OF FASHION.

BY THE EDITOR.

"LIE down amidships and you will feel better," is the advice of the skipper as he sees the mournful and convulsed passenger paying his tribute to the waves from the bow or the stern. Such should be the advice given to those who are found suffering from extremes of fashion or faddism. We laugh at the priggish and empty youth who affects the highest exaggeration in the latest "toggery"; we also pity the poor woman who (almost peculiar to the city of London) in the constant toil of her companionless life has grown old in the garments of her girlhood.

Yet these are simple and harmless examples of what occurs throughout the whole history and movement of society. There are fashions in health and the ideas that prevail regarding it; epidemics, so to speak, of over-clothing and of under-clothing, of over-feeding and under-feeding, of hardening the system and of softening it. At one time it is the "rage" to expose the bodies of children almost as much as decency will permit, with the object of accustoming them to the bracing air, and this regardless of distinctions between summer and winter, night and day, and between weak children and strong. Then the pendulum returns, and clothing is heaped upon them so that their very movements are impeded by the thickness and weight of their woollens—also regardless of the distinctions just mentioned. Respecting the materials of which clothing is composed there is the same difference of opinion at various periods. Our grandmothers, worthy dames, were of opinion that for "under-wear" nought but linen, and that of the finest and fairest, became those of high degree; and the "linen" of a household, like the "silver," still stands for all that in olden time really was composed of these respectable materials. Passing by the modern and plebeian cotton, we find that every one—even ourselves—must advocate nothing but wool next the skin, and we wonder at the blindness of our ancestors who did not see, what is so palpable to us,—to say nothing of those who are to come after us—that sheep's wool is the most natural, the fittest, and the healthiest covering for the human skin. Even here, however, we may reflect that there are differences among human beings, and among sheep. There are persons whose sensitive skins are irritated by even the softest of wool, just as there are others upon whose pachydermatous covering sackcloth and ashes would only exercise a pleasing excitation.

In our unflinching advocacy of "sheep's clothing" we are somewhat shaken by the discovery made by the German pastor Kneipp, that "wool is an enemy to mankind." It is, n deed, he points out, "nothing else than a horny tissue which, like horn, bristles, feathers, whalebone, tortoise-shell, claws, hoofs, nails, horns, and scales, covers the exterior of the skin." As if this were not sufficiently horrifying, he further tells us that there is in this tissue—which for years we have been hugging to our bosoms as a friend and protector against coughs, colds, rheums, and sneezings—a peculiar kind of grease called Lanoline or wool-fat. This offensive substance it is which gives to woollens their delusive softness and hides their true and horny nature. To this also he attributes the faculty of retaining the exhalations and secretions from the sebaceous glands which make woollen underclothing—*experientia docet*—so mal-odorous.

We can see therefore that, secure as we thought ourselves in our garments, we must henceforward wear them, whatever they be, with modesty and in fear and trembling, as at any moment some ruthless discoverer may rob us of what we usually deem our only shelter from the wind.

The worthy pastor, however, regains our sympathy when he warns us that "the dirt in the dark or natural-coloured woollen underclothing is not noticeable," and that "the good old habit, based on principles of cleanliness and

health, of providing the body with clean white linen underclothing at least once a week is fast disappearing." We hope this is not the case, but think the warning is well worthy of being heard.

Our reason for drawing attention to such advocacy as Pastor Kneipp's is that we may point out how no hard-and-fast line can be laid down for all the world. To some Cotton is king, to others Wool, while Pastor Kneipp will have none but Linen. As we have already hinted, there are "skins and skins"; there are also times and seasons, climates and conditions of body which persuade us, if only for comfort's sake, to vary our treatment of ourselves and others. Absolutism in clothing is reserved for the angels—we mean the ultra-mundane ones. Once again we recommend common sense, woollens, and the golden mean.

SOLILOQUY ON TOOTHACHE.

"TO BE, OR NOT TO BE."

HAMLET. Act III. Scene 1.

To have it out, or not, that is the question :—
Whether 'tis better for the jaws, to suffer
The pains and torments of an aching tooth;
Or to take steel against a host of troubles,
And, by extracting, end them?—To pull,—to try,—
No more;—and, by a try, to say we end
The toothache, and a thousand natural ills,
The jaw is heir to,—'tis a consummation
Devoutly to be wish'd. To pull;—to try;—
To try! perchance to break; ay, there's the rub;
For in that wrench what agonies may come,
When we have half dislodged the stubborn foe,
Must give us pause: there's the respect, that
Makes an aching tooth of so long life:
For who would bear the whips and racks of pain,
The old wife's nostrum, the dentist's contumely,
The pangs of hope deferred, kind sleeps delayed,
The insolence of pity, and the spurns,
That patient sickness of the healthy takes,
When he himself might his quietus make
For one small guinea? who would fardels bear,
To groan and fret under a weary pain;
But that the dread of something lodged within,—
The linen covered forceps from whose fangs
No jaw at ease returns,—puzzles the will;
And makes us rather bear these ills we have
Than fly to others that we know not of?
Thus dentists do make cowards of us all;
And thus the native hue of resolution
Is sicklied o'er with the pale cast of fear;
And many a one with boldness seeks the door,
With this regard, but turns his steps away,
Scared at the name upon the door-plate.

SOME man is said to have discovered a method of deodorising whisky. Hitherto the plan has been to deodorise the whisky drinker, but now the harmless and necessary clove will find its occupation gone.

AMBULANCE NOTES.

(*Continued.*)

BY R. PURDIE, M.B.

Fainting.

FAINTING, or Syncope, is the result of an insufficient supply of blood to the brain, due to a weakening of the heart's action, whereby its power of pumping the pure, arterial, oxygen-carrying, life-giving blood to the brain is lessened.

Fainting is only an exaggerated condition of what we know natural sleep to be. For the healthy play of correct thought, in fact for the normal performance of its highest functions, we must have in the brain a circulation of blood regular in quantity, and healthy in quality. During our waking hours, if we could peer under its bony case, as has been done in animals, we should find the brain of a rosy tint, due to the colour given to it by the blood flowing through its small capillary vessels; whereas during sleep, when we are more or less lost in unconsciousness, its surface becomes white and blanched, due to contraction of the arteries pressing the blood out of the brain. Only a short step farther, a slightly greater decrease in quantity of that precious fluid, and we are lost in the total insensibility of a fainting fit. Truly, therefore, may we say in the words of the poet that

"Sleep is death's younger brother."

Fainting may arise from several causes. It may be the result of an accident causing great loss of blood, or even from the shock alone of the accident acting through the nervous system on the heart, so tending to weaken its power and lessen its action. Or again, the fainting may be caused by fright, by exhaustion, or hunger, but probably, most frequently of all, by sitting in an over-heated, over-crowded room. It occurs so frequently in church or chapel that one is apt almost to consider it as part of the service, hence the introduction of the peppermint lozenge, the "smelling salts," and the

vinegarette, which were—until the wheel of fashion took another turn—considered as the proper accompaniments of the prayer-book. The requirements of the modern worshipper are such with regard to cushioned seats and a warm atmosphere, that it is only amidst the greatest comfort that his devotions can be duly paid. The result of these tendencies, coupled with the effect of generally breathing a vitiated atmosphere, tends either to make the brain dull, apathetic, somnolent, hypnotised in fact, and oblivious to the eloquent words of the preacher; or it may even be that, unless prevented by the timely application of the "smelling salts," fainting unfortunately takes place. The person is overcome with a feeling of giddiness, the head begins to "swim," there is a sensation of singing in the ears, and of coldness, familiar objects seem to turn round, becoming blurred and indistinct, loss of consciousness takes place, and the person sinks insensible. The face is pale, the pulse is feeble, the skin cold, and the breathing is shallow and sighing.

In rendering first aid in these case, it will be necessary to restore the diminished circulation in the brain as soon as possible. With this object in view, if the person be not already prone, he must be immediately laid flat down, and all tight clothing about the neck and chest loosened. He should have plenty of fresh air, by opening the windows if in a room, if outside, all crowding round him must be prevented. Cold water may be dashed on his face, and "smelling salts" should be held to his nostrils. As soon as he is sufficiently restored to swallow, a little sal volatile or weak whisky and water may be given. He ought then to rest for some little time until he is able to return home.

Should the person be so situated, as not infrequently happens, that, owing to the fact of his having fainted in some narrow confined space, or in a large assembly where people are sitting close together, it is impossible to lay him flat down, in order that the blood may "flow to his head," the same end may be attained by pressing his head well down between his knees and keeping it there until he feels better, which is usually only a question of seconds. If any one feeling a tendency to faint would remember and try this simple manœuvre, in all probability he would find that the actual attack had been successfully warded off.

Invalids who have been confined to bed for a lengthened period by a severe illness, or who have suffered from an exhausting, debilitating fever, such as Influenza, and who have been much weakened in consequence, are extremely liable to fatal syncope on being raised to the erect position; this was undoubtedly the cause of Sir Morell Mackenzie's death. Had the simple proceeding given above been at once adopted in his case, the life of that eminent specialist might probably have been saved.

It must also be remembered that a frequent disposition to faint points to some weakness in the constitution, requiring medical advice.

(To be continued.)

BRAIN TROUBLES IN MODERN LIFE.

By THOMAS LYLE, M.D., etc.; Hon. Pathologist to the Throat and Ear Hospital, Newcastle-on-Tyne; late Physician and Medical Superintendent Birmingham New Asylum, Rubery Hill.

THE brain in this age of struggle and competition is more liable to conditions of exhaustion than any other organ of the body, inasmuch as it has no assistance or help from any other organ; it has to bear the burden and endure the amount of work it has to perform single-handed. In this respect it is unlike the lungs, liver, or kidneys.

Exertion of the brain is healthy if kept within proper limits—nay, it is even necessary, in order to have a healthy brain, that it should have a certain amount of work to perform. This is followed by rest and repose, but if we go beyond these limits, exhaustion follows, it may be with excitement, or with depression, producing some form of nervous disorder or mental disease. Should this unfortunately take place the power of reflection generally suffers first, but suffers in different degrees. If we

notice a number of patients in the earliest stage of insanity, there is, as a rule, a morbid change of disposition, it may be only an unappreciable amount of depression or exaltation of spirits, a restlessness, with want of sleep, which may vary in intensity according to the severity of the case. There may be confusion of memory; this may be followed by perversion of natural feelings, a dislike to those who are their nearest and best friends, distrust and suspicion take the place of confidence and trust. The whole character is changed: the careful man becomes most reckless, the amiable man quarrelsome, irritable, and restless; he has morbid desires, with, it may be, impulsive tendencies. Everything becomes completely changed. He is dissatisfied with everything and with every one—in fact, he is not himself. He will shun society it may be, and shut himself up by himself, or be apathetic and indifferent to all that is going on around him. At times the patient is self-conscious of the commencement of his attack, and will even seek admission into an asylum of his own free-will. On several occasions I have had patients come to me whilst I was Medical Superintendent, and plead with me to admit them into the asylum. This I could not do without proper certificates. Or again, in place of this state of depression you may have great excitement.

The change of character is most striking in the early stages of insanity. The memory may be clear and unimpaired throughout the attack, not only as to what is passing then, relating the most trifling incidents that took place all through their illness, but even as to past events in former life; whilst in others there is great loss of memory. I have known patients who could not tell you five minutes after partaking of a meal what it consisted of, nor could they find their way to their own bed-room, although only a few yards off.

In mania, volition is greatly increased; the patient believes he can do impossible things. In melancholia he becomes more apathetic and irresolute, and cannot see his way clear to perform certain acts of a simple character; whilst in dementia the power of will ceases, and we have absence of volition.

The sensorial functions are also considerably affected. The senses of hearing, seeing, smelling, tasting, and cutaneous sensibility may be individually or collectively affected. The patient thoroughly believes that he is the victim of some foul conspiracy, that his food has been poisoned, etc. As an illustration of many cases seen by me, in which all the senses were affected, one patient every night before going to bed took the sheets off his bed, put one round the top and the other round the bottom of the door, then stuffed some rags into the key-hole of the door, plugged his ears and nostrils with any old thing he could pick up, and got into bed underneath the mattress. This was, he said, to prevent sulphur being pumped into his brain by some vile conspirator, who followed him about from place to place wanting to take his life. The patient could see his tormentor in the roof of his room, and frequently threw missiles at him. He would show me portions of his skin, which he said had been burned by the sulphur through the night; frequently said in the morning he did not expect to have lived till the morning, he was in such suffering. At times he would refuse his food, until he was reassured by me that there was no poison in it.

The subject of hallucinations should always be looked upon with great care, as the patient may at any time be incited by a voice or command to do acts of violence to himself or others. Hallucinations always cause the patient great distress of mind.

As to the causes of insanity and nervous affections, they are many, but hereditary influence heads the list, then intemperance, and following, a good way down the scale, are such as domestic troubles, adverse circumstances, mental anxiety, etc. The fast age in which we live, that of hurry and bustle and severe competition, all tend to exhaust the brain. Education begun at too early an age, or forced on a child naturally weak, conduces greatly to dis-

ordered nervous conditions, frequently leaving behind the seeds of future mental disease.

The type of insanity has become altered these last few years. We formerly had more cases of mania than any other kind. Now during the last three or four years I have noticed that melancholia is the leading type of insanity. Why this should be I am scarcely prepared to say, unless it be that the influenza has something to do with it. This year I have seen, in consultation, several cases of insanity following influenza, and they were of a depressed melancholy type. Influenza is well known to depress the patient, not only at the time of the attack, but for many months afterwards. Or is it the type of insanity is changing, like other diseases?

I wish to point out that insanity should always be looked upon as a disease of the brain, and to a great extent curable, if we exclude organic disease. It is a complication of symptoms of a morbid state, and should therefore receive medical treatment early. Many cases are allowed to drift on for a time, until they become chronic before any treatment is adopted, whereas if seen in time, the chances are they would have recovered.

ETHER-DRINKING IN RUSSIA.—According to the *Pharmaceutische Zeitung*, the consumption of ether as a beverage has spread so rapidly in Russia that the Government have found it necessary to prohibit the free sale of ether and of certain of its compounds, such as Hoffman's "anodyne," and to schedule ether among the powerful poisons, the sale of which, even by pharmacists, is subject to severe restrictions.

AN AUSTRIAN LADY-DOCTOR.—Dr. Anna Bayer has been appointed by the Austrian Government medical officer for Dolnij-Tuzla, in Bosnia. The reason for this, in Austria, unheard-of innovation, is that the district in question (like most other parts of Bosnia and the Herzegovina) contains a very large Mohammedan population, and that no male physician is allowed to practise among Moslem women. On January 8th the oath of office was solemnly administered to Fräulein Bayer by Government Councillor Von Vukovicz, after which a banquet, officially attended by the notables of the district, was given in honour of the lady-physician.

PRESERVATION OF THE EAR, AND ITS FUNCTIONS.

(Continued.)

By RICHARD ELLIS, F.R.C.S. ED., *etc., Senior Surgeon, Newcastle-on-Tyne Throat and Ear Hospital; Hon. Consulting Surgeon, Sheffield and South Yorkshire Ear and Throat Hospital, etc., etc.*

SOME time ago I saw a patient at the hospital who complained of persistent and annoying noises in his ear, or, as he said, all over one side of his head as well. On examination, the whole cause of his trouble was found to be a small but hard particle of cotton wool, which had got, as it were, glued down by wax or the drum. It was removed, and with it his trouble at the same time. A gentleman who had been deaf for sixteen years, and had given up all hopes of cure, on taking a warm bath one day heard a loud report, and fancied some one had shot at him, and on looking round he found the "bullet" floating upon the water in the form of a hard lump of wax about the size of a pea. From that time he heard distinctly. A piece of lead from a carpenter's pencil has been known to remain twenty-eight years in the ear without causing any inconvenience beyond deafness. These cases out of many of a similar class show how necessary a thorough examination of the ear is in all cases of deafness, whether of short or long duration. Many cases, again, of deafness arise from the throat, with which there is direct communication with the ear by means of a little tube or canal known as the eustachian tube. Now, when there is a sore throat, and the tonsils inflame and enlarge, these tubes become blocked, and the hearing is impaired. Fortunately, this form of deafness is generally curable. We cure the throat, and with it the deafness disappears. Sometimes we have, when of long standing, to remove the enlarged tonsils by a simple operation devoid of pain or danger. I have often done it, and the patient has been able to go to school in two or three days afterwards. But again, even throat deafness should never be allowed to

become chronic, because, as a rule, the longer a defect in hearing exists the more tedious it becomes in care. When the drum of the ear is broken, even then the hearing can be restored or improved in many cases by the use of artificial drums or membranes, but they require care and proper adaptation to the case, or they may become not only useless but injurious. I frequently remove these artificial drums from patients' ears who mostly come in a great fright at having lost them, as they say, "in their head." In old cases of deafness great aid to hearing is often given by the use of suitable ear trumpets and conversation tubes, but then again care must be taken that the patient has a suitable instrument. It is no use writing to London or elsewhere, but the person must go to a trustworthy dealer in these appliances and test and select the proper instrument, which when found will give great comfort and satisfaction to the patient and friends. I have seen many cases of deafness caused by shrill railway whistling coming on unprepared ears suddenly. I say unprepared, for the ear has a power of preparing itself to receive without damage a sudden noise, such as gun firing, explosions, whistling, etc., etc. A few years ago I used to see cases of deafness which had their origin from the explosions on the occasion of the great fire at Newcastle and Gateshead. Should a person be aware that there is likely to be a great noise or explosion it would be well to open the mouth slightly, for by this means the concussion of air on the drum is balanced by the air in the throat flowing up the tube before mentioned. A not infrequent cause of deafness, or what is worse, deaf mutism, that is a state of existence in a deaf and dumb condition, is found to follow the children of near relations—cousins. One of the Churches prohibits these marriages, and indeed very properly. The children of parents who have led intemperate and vicious lives are frequently born deaf and dumb, but of course it may and does arise where there is no fault with the parents. I know of some districts and isolated villages in Northumberland which have more than their proportion of deaf mutes and idiots, and many who could not be classed as idiots are simpletons, and unable for this reason to get on or take their proper place in the world. Perhaps much of the crime and immorality which astonishes us as proceeding from these quiet places has its origin in defective mental organisation and development. The root of the matter here is, in my opinion, heredity; that is, that although the parents could not be put down as within the degrees of prohibited affinity, yet they are practically blood relations from living together in a small place or circumscribed district, and marrying within themselves, as it were, for generations, and so their offspring suffers, and frequently crowd our hospitals and charitable institutions.

Conflicting Scientific Evidence.—A singular instance of conflicting scientific evidence occurred in a case which came before a Liverpool bench of magistrates a few days ago, regarding the seizure of a quantity of American beef at a sausage manufactory. For the prosecution, one medical officer of health, eight meat inspectors, and three medical men swore the meat in question was absolutely putrid, unfit for human food, contained microbes, and smelt like a mortuary. On the other hand, for the defence, four meat inspectors and veterinary surgeons, two medical men, and professors of pathology, and one assistant medical officer of health, declared the meat was sound, sweet, and normal. Under those astonishing circumstances the magistrates could hardly be blamed for giving the defendants the benefit of the doubt, dismissing the case.

An Alleged Cure for Cancer.—Professor Adamkiewitsch, of Cracow, who has been experimenting in Vienna with a remedy for cancer for months past, has shown the Society of Medical Men there a patient who, he says, has been completely cured by the process. He stated that the glands, which had been slowly but steadily growing for half a year, had completely disappeared after a fortnight's treatment. The cure took place under the influence of injections which have no effect on other than cancerous formations. He maintained that the efficacy of his remedy is now beyond doubt, but Professors Billroth and Kundrat controverted the statement that the remedy is an absolutely certain one.

Hints for the Sick-Room.

UNSYMPATHETIC NURSING.

To be a perfect nurse one almost requires to have passed through a severe and perhaps lingering illness, otherwise it is all but impossible to understand and treat sympathetically the various stages of disease and recovery. It seems ludicrous to think of a usually vigorous man brought to the verge of tears because he had to wait five minutes for an expected cup of beef-tea, or of a gentle and refined woman flying into a rage because a towel had slipped from the screen on to the ground. Yet these, and a hundred other curious incidents, are what must be looked upon as matters of course when the body is off its usual balance owing to acute or prolonged illness. Do we not frequently see persons in perfect health furiously bang the door against which they have accidentally hurt themselves; and how sympathetically, therefore, should we tend those who are unnerved and unstrung, and whose temper and spirits are in some measure beyond their control.

We have known nurses (who had mistaken their calling) who would argue to the bitter end against every simple fancy or crotchet of the patient, as if their main object was to prove themselves in the right infallibly; or would ceaselessly reproach the helpless bed-ridden victim upon the folly or indiscretion which had brought on the illness. We have even known some who were so utterly senseless and heartless as to recount their previous experience of similar cases which had proved fatal, and tell over all the symptoms evidently *pour encourager les autres.* Others there are who, in case they should not be appreciated, pull long faces and heave deep sighs over every service they have to perform, until the patient would rather suffer for hours than ask for the cool head-cloth to be changed, or the blind to be drawn a little further down.

Some months ago we drew attention to the tidiness of the sick-room, the bed, and the patient, but we naturally prefaced our remarks by saying that it was in order that the sick one might be more comfortable. The good of the patient ought to be of first importance, even at the expense, in extreme weakness, of order and tidiness. In a recent case, a friend of the patient called in by chance, and, not appreciating her extreme exhaustion, proceeded to "make the patient smart." She washed her thoroughly, combed her hair, changed her linen, stayed chatting for two hours without giving food, and left her victim delirious. All this occurred while the regular nurse, who had been up all night, was taking much-needed rest, and while the patient herself should have been resting or sleeping.

This goes far to prove the saying that nurses, like poets, are born, not made. Unless there is a sympathetic nature, a delicate, sensitive touch, and an appreciation of the importance of little things, there can be no aptitude for nursing. The true nurse, if her patient had fallen into a light sleep, but had restlessly exposed one arm, would warm a shawl and cover the arm with it, rather than risk awakening her by re-arranging the bed-clothes; or if an extra blanket or quilt were required, she would not fling it across the bed, but would lay it on and gently unfold it, to guard against the sudden draught of air which would reach her patient by the other method; or if a liniment had to be rubbed in, she would carefully warm her own hand before applying it. These instances we mention just because they are trifles, and because the same thoughtfulness which prompts them is needed in every movement. Knowledge can be learned and skill acquired by training, but sympathy and gentleness are the prerogatives of a loving nature.

THE following epitaph is in the graveyard at Childwald, England:—

"Here lies me and my three daughters,
Brought here by using Seidlitz waters:
If we had stuck to Epsom salts,
We wouldn't have been in these 'ere vaults."

BEAUTY AND ITS MEDICAL CULTURE.

Ever since the world began, the question that has mostly agitated the feminine mind is the culture of beauty. The men and women of old recognised, as do those of modern times, that one of the chief charms about a woman was her complexion, hence the pains and care bestowed on it by any woman caring to remain attractive and young-looking as long as possible. As far back in olden times as when the city of Nineveh flourished the practice of enamelling was quite common; the women of Athens painted their faces with white lead and vermilion, and the poet Ovid complains of the paints used by the Roman matrons to imitate the beautiful colour which health alone gives.

It was a great mistake then as now for women to attempt to beautify themselves by artificial means, for they not only injure themselves by daubing all sorts of poisonous preparations over their faces, but they earn the well-deserved contempt of every one, as the imitation, however clever, can always be detected from the real thing. The spring of the year always seems to be a trying time for women, especially to those who are sensitive to atmospheric changes. One hears more complaints about the bad condition of the complexion then than at any other time. If the skin is blotchy and pimply, a disordered stomach has probably somewhat to answer for; if rough and chapped, to the constant severe winds may safely be ascribed some of the work of destruction.

In the first case a mild laxative, such as Cascara Comp., which has both a tonic and cathartic effect, will be found useful—dose, one or two Tabloids at night for two or three days running; or that good old-fashioned remedy, sulphur, may be preferred. Sir A. B. Garrod's prescription will be found a most excellent one, one or two Compound Sulphur Tabloids being taken at bedtime. For ordinary rough and chapped skins, nothing more effective than Hazeline Cream could be used. If thoroughly rubbed into the skin, it leaves no greasy, shiny marks; and any lady who will trouble to use a little on her face before going out, may rest assured that she can face rude Boreas with absolute impunity, as the Lanoline, which is the base of the Hazeline Cream, sinks into the epidermis, and forms a slight, impenetrable layer of fat, which effectually protects the skin from the effects of the keenest winds.

Guy's Hospital owns large estates in Herefordshire, Lincolnshire, and Essex, which in 1875 brought in a net revenue of £41,840. Last year the income had fallen to £27,580.

QUERIES AND COMMENTS.

To the Editor of "The Health Messenger."

Sir,—I have lately seen several clerks engaged in the same office, and presenting so many symptoms in common, that I requested and was allowed to inspect the apartment in which they worked. I found that they were practically working in a glass case, to the great injury of their health. Would any of your chemical experts suggest a mode by which I could demonstrate in a handy, and if possible striking manner, the presence of carbonic and other deleterious products? and oblige

A Busy Practitioner.

The Health Messenger.

London: 24 Warwick Lane, E.C.

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The above query is the first reply we have had to our invitation of last month. Replies and further enquiries are invited.

With Australian snakes the cases now accumulated are sufficiently numerous and successful to make a layman declare that if his child or himself were bitten by a poisonous snake, the doctor refused to adopt Dr. Mueller's treatment, and death ensued, the doctor would be morally guilty of manslaughter.

Juvenile Drunkenness.—A shocking case of drunkenness in a child was recently before the Manchester city magistrates. The mother of a little girl only three years old, together with another woman, were convicted of giving the child, in a public-house, whisky and port wine until it was helplessly intoxicated, and had to be taken to the infirmary for medical treatment, so alarming was its condition. The mother was sent to prison for fourteen days, and the other woman for a week; but what shall be said of those persons at the bar of the public-house who, it is stated, supplied the intoxicants?

PREVENTION versus CURE.

By A. Blair, M.B.

There is perhaps no assertion with which we are more familiar than that contained in the oft-quoted maxim that "Prevention is better than cure," and, whatever its origin, public belief in the truth of the dictum finds its practical expression in our multitudinous health acts, in our elaborate systems of drainage, of sewage disposal, and of ventilation, in quarantine arrangements, in leper, fever, and cottage hospitals for the isolation of infectious disease, and, in a word, in the adoption of all the means which sanitary science can suggest or sanitary art accomplish for the prevention of disease. That such belief and its results have had their reward is indicated by the improved health condition, and more especially the diminished death-rate of the country generally, of its largest towns in the aggregate, or of the few principal towns individually, during the last seventeen years, a time which will take us back to the date at which an active revival of sanitary work may be regarded as taking place.

In the whole of England and Wales the diminution in the death-rate during these seventeen years is from 21.2 to 17.9 per 1000 of the population. In the twenty largest towns the fall is from 24 to 19 per 1000, which, taking individual communities, we find that in London the death-rate has fallen from 22.5 to 17.4; in Liverpool, from 25.9 to 21.6; in Birmingham, from 24.8 to 18.4; in Manchester, from 30.1 to 26.7; in Leeds, from 27.6 to 22.1; in Bristol, from 23.1 to 17.6. Calculated to per centages, the diminution of mortality for England and Wales is 15.6 per cent.; for the twenty largest towns, it is 22.1 per cent.; for London, 22.6 per cent.; for Liverpool, 16.6 per cent.; for Birmingham, 25.8 per cent.; for Newcastle-on-Tyne, 16.3 per cent.; while in Maidstone the diminution in the death-rate has attained the extraordinary figure of 40 per cent. But though these figures indicate their happiest result in the diminution of the death-rate, it must of necessity be left to our imagination to estimate as best we can how much amelioration of health, how much diminution in physical suffering, how much saving of mental distress is involved in their details. But it must not be supposed that the limit of improvement is reached, that the resources of preventive medicine are exhausted; on the contrary, there is good reason to believe that quite as much remains to be done as has already been accomplished. It may be argued that these are considerations entirely for sanitarians, and affecting only the powers that be in the shape of sanitary authorities. This is only partially true, for until individuals and small communities, as well as sanitary authorities, are educated and taught the commissions and omissions in our ordinary every-day life, that directly or indirectly constitute a factor in the causation of disease, we cannot hope to find ourselves the happy participators in the best results which accrue from the fullest adoption of the science of preventive medicine; for, in the words of an eminent authority, "it is undoubtedly true that we can even now literally choose between health and disease, not perhaps always individually, for the sins of our fathers may be visited upon us, or the customs of our life and the chains of our civilisation and social customs may gall us, or even our fellow-men may deny us health, or the knowledge which leads to health. But, as a race, man holds his own destiny, and can choose between good and evil; and as time unrolls the scheme of the world, it is not too much to hope that the choice will be for good."

(*To be continued.*)

A Local Demon.—Mr. Justice Denman mentioned the mistake of a witness who used words of which he did not know the meaning. He wished to say that a doctor who attended him was only a *locum tenens*, but persisted in calling him a "local demon." Even when the proper phrase had been put to him three or four times, he stuck to his own version as the real one, and left the witness box fully persuaded that a medical practitioner who officiates for another is a "local demon."

REVIEWS OF BOOKS.

"BALDNESS AND GREYNESS," by Tom Robinson, M.D. (London: Hirschfield Bros.).—Although much of this volume pertains to the medical rather than the lay reader, it contains an amount of curious and interesting information about the hair which makes it almost as fascinating as a novel. The origin and life-history of a hair is told with all the incident and episode associated with the modern romance. Black hair and blonde hair, straight and curly, the hair of the scalp, the lip, the chin, and the eye-brow are all discoursed about, while the very hairs of our heads are numbered—"a flaxen-haired beauty has from 140,000 to 150,000 hairs on her head; a black-haired belle from 100,000 to 110,000; while a red-haired one has only about 20,000." It is, we should imagine, much easier to count over the cranial surface of a business man above forty. The author discusses various authorities on the question as to whether the hair grows after death, and also fully describes its physical, chemical, and electrical properties. The chapters on diseases that attack the hair are exclusively for the medical profession, but there are at the end some interesting rules for general management, from which we quote the following:—

"The scalp should be well brushed twice a day with a fairly stiff brush. . . . The hair should be tipped every other week, but should not be subjected to the barbarous rigour of brushing by machinery, which . . . tears out a great many healthy hairs, and . . . irritates the scalp." For washing "nothing is better than warm rain-water and a good plain soap, but care must be taken to thoroughly dry the scalp after washing." Directions for suitable and unsuitable stimulants and pomades follow.

THE young writer of to-day is in the market of open competition. If he desires to live permanently by literature he must lay his plans for producing work of a constantly improving quality. No man can produce a high-class work with low-class tools. What is the instrument with which the literary man works? It is his brain; and in exact proportion as that brain is in excellent order will it produce excellent work.—*Hospital.*

DOMESTIC AND PERSONAL HYGIENE.

Stuffy Rooms.

WANT of ventilation has much to do with the feeling of fatigue, want of energy, and headache so frequently experienced in rooms lighted by gas. The window open a little at the top will frequently relieve these symptoms, and dispel irritability of temper.

Air in the Bedroom.

THE restorative effect of sleep is almost doubled if by suitable ventilation the air of the bedroom is generally kept renewed during the night. A narrow chink of open window will do wonders. The bed, however, should not be in direct line with the fireplace and the window.

In Moonlight and Mud.

"THERE go next year's corpses!" was the ejaculation of a pedestrian as he watched dart past him a troop of figures in white, which would have been ghostly but for their "tights." They were Rangers doing six miles an hour in the moonlight and mud. The very dogs protested against such mad devotion to athleticism.

Fumigation by Sulphur.

ODYSSEUS is often described by Homer as a man "of many devices," and amongst other devices he was apparently thoroughly acquainted with the best means of disinfection. In the twenty-second book of the Odyssey, after the slaughter of the wooers, Odysseus says to Eurycleia, "Bring sulphur, old nurse, that cleanses all pollution; and bring me fire that I may purify the house with sulphur." This might be some modern doctor demanding the means of disinfecting some patient's room after a scarlet-fever case.

Punishments to Children.

PASSION is always selfish, always cruel, and nearly always unjust. A dignified parent's mere displeasure is a far surer and more wholesome deterrent to wrong-doing than the threats,

the thrashings, and the terrorism of the weak, ignorant, or ungoverned. Passion forgets how trivial is the offence, how weak the child. If there should be occasion to correct children, the punishment should be certain, immediate, and brief, and as soon as over forgotten.

It is wise to move the child through its gentler emotions and affections, and dangerous to work upon its fears—especially its superstitious fear of the dark. Cheerful but persistent firmness is the best discipline, and saves both parents and children much trouble and vexation, both present and future.

Household Dangers.

SERVANTS and children should be regularly and seriously drilled in the precautions to be taken in certain emergencies, which may arise sooner or later in every household. A fire, an escape of gas or water, danger of explosion of kitchen boilers—these and other emergencies ought not to find either servants or children ignorant or unprepared.

Kitchen Boilers

ARE liable to explode if subjected to too great and continuous heat, and if there is not sufficient outlet for the steam. Whenever any noise is heard proceeding from the boiler, the kitchen fire should be immediately raked out, and the hot-water tap should be slowly allowed to run, to relieve the pressure. The greatest danger, however, occurs when, through frost or other cause, the water supply has been for the time cut off from the boiler. If in such a case the fire is kept on, and the hot water used up, the plates of the boiler become exceedingly hot. If under these circumstances the cold water supply be suddenly turned on (through the pipes melting, or the main service being resumed), then an explosion is almost certain to occur, owing to the action of the cold water upon the hot boiler.

Whenever, therefore, the water goes off (whether from frost or a stoppage of supply) do this—

1. Do not draw off a drop of hot water from the taps, except to relieve the pressure very gradually.
2. Rake out the fire which heats the boiler, and do not light it again until you are sure the water supply is on.

Calling the Doctor.

Many jurymen seem to be under an impression that medical men are paid officers of the State, and bound to go at everybody's or anybody's call. Mr. Braxton Hicks recently very properly explained to such a juryman at an inquest on the body of a child that doctors were not bound to come when called. And he added, when people knew this they would be "more likely to send for a medical man when he could do a person good," instead of waiting till death was threatened. The coroner is quite right. This is not a time for medical men to stand upon their rights or to discuss abstract questions. No profession is more ready than ours with its help and its pity by night or day. But there is a limit even to medical kindness, to say nothing of the physical limits of strength and time. A little more consideration for medical men and medical service will be amply recognised by the profession. This will be shown in two ways, as the coroner suggested—in calling them in early to save life, and not merely to certify the cause of death, and in paying them promptly and with some regard for their calling.—*Lancet.*

Conditions for Crime.

IT is not too much to say that every human being is a potential criminal, exactly as he is a potential epileptic, or a potential lunatic. A single blow on Shakespeare's skull at the age of five-and-twenty might, by fracturing its inner table, and causing a certain amount of pressure upon the brain, have deprived us of "Hamlet" and "King Lear," and all the other plays which have made the name of Shakespeare a household word in every civilised country. An obstruction in one of the blood-vessels of Mr. Gladstone's head might have converted the bright and vivacious old statesman of the last ten years into a mere mumbling imbecility. The shape of a man's cranium can alter his character. The want of nourishing food can impair intelligence; a poisonous atmosphere may produce an irritable nervous system, and in the long run criminality or lunacy. These are facts, not fancies and fads. They are facts which science has not only recognised, but verified again and again. But if they be facts, they should be taken into account by all

sorts of persons who have anything to do with criminals; by the parents of children who commit crime; by friends whose trusted companions disappoint and deceive them; by judges and juries who have control of the liberty and life of criminals. It must be admitted that justice is to be done even on behalf of those who commit crimes. Nay, the very act of crime so places a man in antagonism against all the rest of the world that the criminal becomes at once entitled to a certain amount of help and defence against odds that would otherwise be altogether too overwhelming. The laws of most civilised countries recognise this already, and in a mere spirit of fairness assign to every unaided criminal an advocate who can presumably put his case in the best possible light. What the law already does in an elementary kind of way, science, out of her mere love of truth and justice, strives to get done as completely as possible. And in order to bring about this advance in civilisation, she gathers facts from every quarter of the globe; she collates them; she considers and weighs them with careful accuracy, and when she has done all these things she presents the facts to judges, clergymen, fathers of families, friends, employers of labour, and indeed to all sorts and conditions of men, in order that they may become wiser, fairer, and more helpful persons to criminals as well as to the rest of the world.—*Hospital.*

SCIENTIFIC AND CURIOUS.

Seed Growth and Electric Currents.—Some experiments, very simple, but of quite startling interest, are described in last week's number of the *Chemical News* (February 5th). Dr. James Leicester, of the Merchant Venturer's Technical School, Bristol, has been studying the growth of seeds in what may be described as electrified earth. Scarcely any apparatus was used. A box about three feet long and two feet and a half wide was filled with soil, and near each end two metal plates, one of zinc, the other of copper, each about one square foot in size, were immersed, and were united outside by a copper wire. It is evident that by slow chemical action on the zinc a current will pass through the earth towards the copper, and returning by the outside copper wire will form about the simplest of simple cells. Various seeds were sown in the earth between the plates, and in every case it was found that the seeds grew much quicker than they did when the plates were absent. Similar and even more definite experiments were made with glass tanks, some with and some without the metal plates. All of them were fitted with the same earth, and were treated with the same quantities of water. In one typical instance the result is thus stated: "In the case of hemp seed, it was fully an inch above the surface before there was any sign of it in the ordinary vessels." The experiments were varied in several ways, but always with substantially identical results. It was found that if the soil was watered with a little very dilute acetic acid the growth of the seeds was much quicker when the metal plates were present, whereas without them no difference was noticed. Further researches on the growth of plant life are in progress, but have as yet yielded only negative results. It is impossible to anticipate the importance which may in future attach to these remarkable observations. They have no analogy at all with the experiments of Dr. Siemens, also interesting and important, on the stimulation of vegetable growth by electric light. Every one knows that electric light is closely analogous to solar radiation, and it is not wonderful that the work of the sun's rays can be imitated, if not equalled, by their only important rival, the voltaic arc. But in these experiments there is no question of light or heat radiation, but a subterraneous impulse imparted to the soil.—*Lancet.*

A Cheap Method of Administering Fat.—Dr. Mershinski, by boiling milk and lard together for a considerable time, prepares a liquid which contains a large percentage of fat, one litre (one pint and three-quarters) containing from 130 grammes to 170 grammes. He gives half a litre before rising and another at eleven o'clock. "Breakfast," at one o'clock, consists of carbo-hydrates; dinner, at five, of nitrogenous matter. Experiments prove that the diet is generally well digested, and that the patient increases in weight. Dr. Mershinski considers this preparation very suitable for hospital and union practice in cases of malnutrition not connected with disease of the stomach, liver, intestines, or pancreas.

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

FRIEND: "Just come home, eh, doctor?"
Doctor: "Yes, been toiling all night."
Friend: "And caught nothing?"
Doctor: "Only a bad cold."

VISITOR (to chemist of limited dimensions, who is an adept in the use of the microscope): "So you are a microscopic chemist?"
Chemist (indignantly): "Sir, I am perfectly visible to the naked eye."

TEMPER OR TEMPERATURE.—Cabby (to lady of Irish descent, residing not a hundred miles from Billingsgate, who is pouring out the vials of her conversation upon a neighbouring lady): "Won't yer 'ave a hinfluenzy microbe, ma'am, to redoos your temperatoor?"

THE WAY THEY SING "I AM A PILGRIM."—The soprano sang in a high key, "I am a pil——," and then stopped. The alto repeated "I am a pill——," and the tenor acknowledged he was "a pill——"; and when the bass came thundering in with the like declaration, "I am a pill——," it was too much for the gravity of the singers. "Grim" was not in it.

CHINESE ADVERTISING.—A reformed opium-smoker (by profession a druggist) prayed fervently that heaven might direct him to make a pill which would cure the taste for the drug. Heaven and advertisement served him so well that he has now an "opium refuge" in every town within two hundred miles of Canton, and the pill sells in millions. For a good, sound, profitable philanthropy the Heathen Chinee is peculiar

AT THE POLICE COURT.—"You say you are a herbalist?" "Yes, sir." "What kind of a 'doctor' is that?" "I make 'intments." "What's your ointment good for?" "It's good to rub on the head to strengthen the mind." "What effect would it have if you were to rub some of your ''intment' on my head?" "None at all, sir; none at all, sir. We must have something to start with."

COUNTRY-GIRL (to Chemist): "Gie me a love-drink for my lad, and see ye make it a strong un, because he's a farmer over six feet."

"ROWLAND" FOR AN OLIVER.—Undergraduate: "I say—ah—would you believe it, I quite forgot where the Straits of Macassar lie. I think that was why they ploughed me."
Father: "Dear, dear, where were your wits?"
U.G.: "By the way, where do they lie? I can't remember even now."
Father: "Straits of Macassar! why, any fool knows they are between—ah—is that the dinner-bell?"—*Punch.*

NATURAL HISTORY. — Governess: "Cotton grows just like corn. Now you have seen corn in the ear, but not cotton."
Little Boy: "Oh, yes, I have. Grandpa, you know."—*Punch.*

ANOTHER DYNAMITE OUTRAGE.—There was an incipient panic in the drug store of F. W. Devoe & Co., in New York, the other day, says the *Oil, Paint, and Drug Reporter.* A man with dishevelled hair entered the store, and, walking up to one of the salesmen, who had evidently been thinking of the recent attempt on the life of Russel Sage, held a can out at arm's length and said, "I want a quart er vermilion, and I want it quick." The salesman eyed the visitor sharply, and said nervously, "Y-yes, sir. W-wait a minnit, and I-I'll find it for you." He ran into the manager's office and cried out excitedly, "Mr. Page, there's a man out there with a can of dynamite, and he says he wants a quarter of a million!" "Well, go'n tell him I'll be out in a moment," said Mr. Page. The wild-eyed man was still standing in the centre of the store, holding out the can, when Mr. Page came out. "What is it you want, my friend?" said Mr. Page, very nervously. The man was beginning to get angry. "A quart er vermilion," he shouted, "and I want it pretty quick." "Will you take a cheque?" said Mr. Page. "No. What do I want with a cheque? I tell you I want a quart er vermilion." "Say that again, and say it slow," said Mr. Page. "A—quart—of—vermilion," said the man, and the clerks recovered.

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WHITE'S PATENT

BED CLOTHES FASTENERS.

The usual state of things.

Securely hold the Bed Clothes without putting the slightest restraint on the Sleeper's movements.

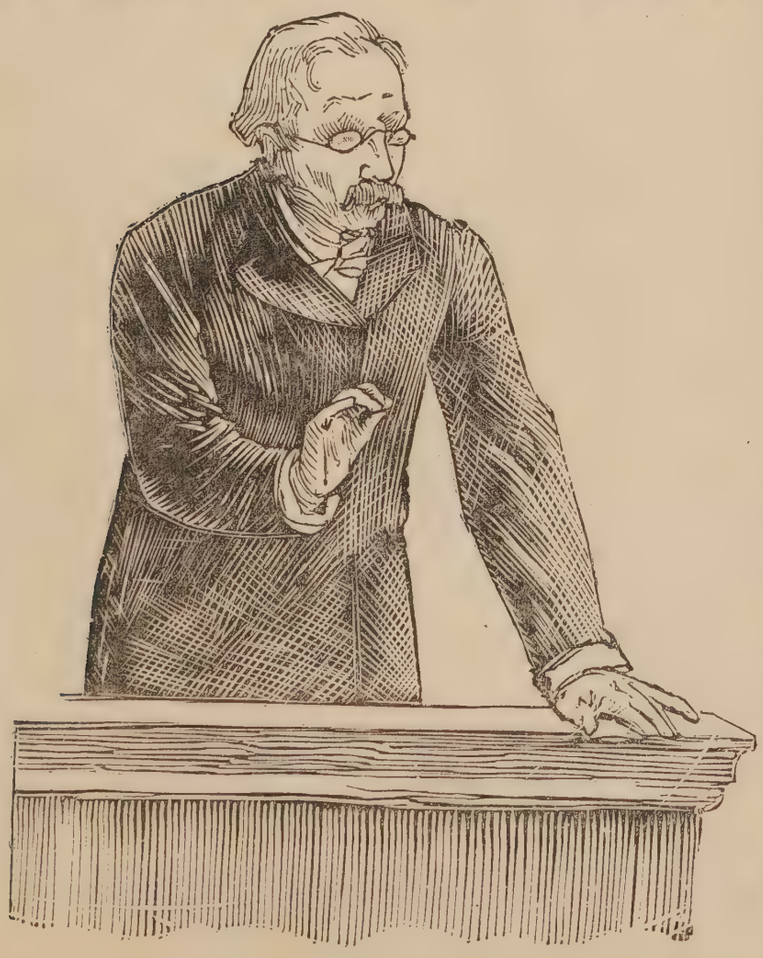
With the Fasteners in use.

There is no doubt that many of the ailments which are supposed to be inevitable to childhood have their origin in colds; and it is equally certain, although not so generally known, that one of the most fruitful sources of colds with children is the habit which they have of kicking off every particle of covering in their sleep. Thousands of our little ones, upon whom a mother's loving care is lavished during the day, are allowed to pass the night nearly naked. Such an experience would try the constitution of the strongest of us. Can it then be wondered at that the statistics of infant mortality are so alarming?

WHITE'S PATENT FASTENERS will be found simply invaluable as a means for keeping the sleeper comfortably covered, and are not only applicable to children, but beneficial to all restless sleepers, and especially in cases of sickness, when it is often a matter of life or death that the patient be not allowed to remain uncovered for any length of time.

May be obtained from Chemists and Furnishers throughout the Country. Price 1/6, 2/6, and 4/6 per pair (postage 3d. extra). Agents in the North—MAWSON, SWAN, & WEDDELL, Newcastle-on-Tyne.

A LECTURE ON HYGIENE AT THE ACADEMY.



GENTLEMEN,

We have now to bring to a conclusion our examination of the alimentary substances which the Minister has done us the honour to submit to our investigations. In the first instance, we must place above all others the **Cocoa Delacre,** of which we have proven the entire purity. We have now an absolutely pure Cocoa, which is nothing else but the pure substance extracted from the select and healthy bean after it has been deprived of a portion of its fatty matter. It would be a most desirable thing if all Cocoas were as good as the Cocoa Delacre. This example proves to you, in a most peremptory manner, that a product can be pure, agreeable, of a pleasing appearance, and, at the same time, economical. I strongly advise you, gentlemen, to consider the **Cocoa Delacre** as the very type of a most healthy, useful, agreeable, and unadulterated preparation, which can be recommended under every respect.

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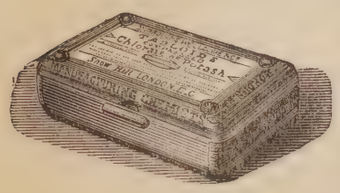
THE THROAT AND VOICE.

CHLORATE OF POTASH "TABLOIDS."

FOR AFFECTIONS OF THE VOICE, THROAT, AND RESPIRATORY SURFACES GENERALLY.

By using the "Tabloids" the drug is effectually brought in contact with the pharyngeal and oral mucous surfaces as a continuous application, and its specific action made certain. In acute sore throat, Chlorate of Potash "usually relieves the uneasiness in a few hours" (Cohen). "It is used in ulcerated mouth and follicular pharyngitis, and has been employed in croup, diphtheria, and spasm of the larynx" (Brunton).



"Of convenient size, they are beautifully made; and, as they dissolve slowly in the mouth, are well suited for throat affections."—THE LANCET.

"Vastly superior to lozenges."—Mr. LENNOX BROWNE.

CHLORATE OF POTASH AND BORAX "TABLOIDS."

The "Tabloids" afford an agreeable form in which to administer Chlorate of Potash and Borax.

CHLORIDE OF AMMONIUM "TABLOIDS."

The solvent and discutient as well as antiphlogistic powers of Chloride of Ammonium are well known, and have led to its extensive employment in cases of sore throat and bronchitis, attended with abundant secretion of thick and tough mucus or phlegm. The "Tabloids" slowly dissolving secure direct and continuous contact with the inflamed surface. They quickly mitigate irritation and lessen expectoration.

Two or three of the "Tabloids" will sometimes entirely relieve coughs that have long resisted treatment with ordinary remedies.

VOICE "TABLOIDS."

Composed of COCAINE, *Chlorate of Potash and Borax.*

Impart a clear and silvery tone to the voice. Easily retained in the mouth while singing or speaking. Now used by the leading singers and public speakers throughout the world.

DIRECTIONS. — A single "Tabloid" may be slowly dissolved in the mouth to remove huskiness or hoarseness.

NASO-PHARYNGEAL "TABLOIDS,"

CONTAINING SODIUM CHLORIDE, BORAX, BORIC ACID, BENZOIC ACID, MENTHOL, THYMOL, OL: GAULTHERIÆ, AND COCAINE MURIATE.

Alkaline and Antiseptic.

Dr. MACNAUGHTON JONES' formula for an antiseptic and detergent mouth lotion, gargle, or irrigation solution for the nares. The difficulty experienced in obtaining solutions for these purposes which will not undergo decomposition upon keeping is well known.

A "Tabloid" makes a perfect solution (Cocaine 1 in 6000) in half a small wineglassful of *tepid water*, and such solution may be used as a gargle or lotion for the nares, pharynx, or mouth. *These "Tabloids" will dissolve immediately without crushing or stirring.*

HAZELINE.

A colourless distilled product, containing the volatile active principles of the fresh green twigs and leaves of the Witch Hazel.

Witch Hazel Plant.

PROPERTIES.—*Hæmostatic, Anodyne, and Astringent.*

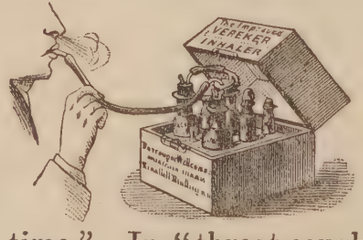
Prescribed in cases of hæmorrhage from the nose, lungs, womb, rectum, etc. Is a valuable agent in the treatment of bruises, sprains, inflammation, peritonitis, piles, fistula, anal fissures, ulcers, varicose veins, eczematous surfaces, tonsillitis, pharyngitis, nasal and post-nasal catarrh, stomatitis, leucorrhœa, nasal polypi, etc.

DIRECTIONS.—In catarrh or cold in the head, may be sniffed up the nostrils with an equal part of tepid water.

Dose for irritated or inflamed throat and lungs, half to one teaspoonful occasionally.

VEREKER IMPROVED CHLORIDE OF AMMONIUM INHALER.

"The neutral vapour of Chloride of Ammonium removes unhealthy and offensive secretions, and restores the long diseased or weakened nasal and respiratory mucous membrane to a healthy state, so that in cases of catarrh, where thickening, induration, and irritation exist, a most decided improvement is brought about in a short time." In "throat-cough," pharyngeal irritation and relaxation and weakness of the throat, it acts as a most effective alterative and tonic to the mucous membrane.



"The best inhaler for the surgeon's study is that of Burroughs, Wellcome, & Co.; it does not require recharging at each time of using, and yields perfectly neutral vapour of Ammonium Chloride."—"Diseases of the Ear and Naso-pharynx," Dr. MACNAUGHTON JONES (Baillière).

Dr. SMYLY, Ex-pres. Royal College of Surgeons, Ireland, says:—"It is the best Inhaler for Chloride of Ammonium I have met with."

THE HEALTH MESSENGER

No. 9. London, April 15th, 1892. One Penny.
Post Free, 1/6 per Annum.

STILL MURMURINGS

Come to us that "We cannot get the *Health Messenger* from our newsagent." Now this difficulty with a periodical not yet a year old is not surprising. Newsagents are so inundated with new papers that they cannot even keep a record of their names, and although our notices appear in their organ, *The Newsagent*, we are not astonished that some (though few) may not have heard of our existence. If inquirers will only be kind enough to order the *Health Messenger* definitely, and mention that Walter Scott is the London publisher, their newsagent will certainly obtain it for them with the next parcel from his wholesale house.

Direct yearly subscriptions (1/6 post free throughout the world) should still be sent to the *Health Messenger* office, 20 West Grainger Street, Newcastle-on-Tyne.

London: Walter Scott, Ltd., 24 Warwick Lane.
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London	Appleyard, W. J., Poppin's Court, Fleet Street, E.C.; Elton & Co., 1 Hind Court, Fleet St., E.C.; Farrington & Co., 31 Fetter Lane, Fleet St., E.C.; Marlborough & Co., 62 Old Bailey; Simpkins, Marshall, Hamilton, Kent, & Co., 317 Strand, W.C.; Walker, W., 674 Upper Holloway Road.
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Newcastle-on-Tyne.	Ross, C. C., The Side.
	Scott, G. W., 30½ Westmoreland Street.
Oldham.....	Pollard, G., 13 Union Street.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

"High" goose was recently responsible, according to the *Lancet*, for a case of ptomaine-poisoning. Ptomaines are a class of poisons which arise in the decomposition of animal bodies. Those therefore who cultivate a taste for "high" provisions should count the risks.

* * *

Our instructive friends, the vegetarians, are occasionally funny without knowing it. The name by which they now designate those who differ from them in the matter of diet is "corpse-eaters." It is curious how fierce human nature may become even on mild vegetable food. Would they have us eat our animal food "alive, oh?"

* * *

According to the special correspondent of *The Times*, upwards of 200 ocean vessels have been infected with yellow fever, including those in the ports of Brazil, whose crews are either dead or have fled.

* * *

An outbreak of enteric fever at Temple Cloud in the Clutton rural sanitary district is naturally causing local anxiety, because it is believed to be due to contamination of drinking water. The *Bristol Mercury* has done good service in bringing to light the facts with regard to this matter. One main source of water-supply is an old coal-pit; and such a source is known by experience to be in many inches a suspicious one.

* * *

Diphtheria, evidently of a very infectious character, is prevailing around Newbottle and New Herrington in the Houghton-le-Spring rural district, and it is stated that in twenty per cent. of the cases the result has been fatal. The sanitary authority seem to recognise the special influence of the elementary schools in this diffusion, for they have not only closed them, but they have, in addition to processes of disinfection, ordered the destruction of books,

maps, and other school property by which the infection may be retained.

* * *

One little section of the Registrar-General's report for 1890 is of special interest to chemists. It refers to the deaths resulting from poison by accident, negligence, suicide, murder, and manslaughter. The records are not very scientifically given, and we have to refer to our back volumes to get comparisons. We find that in 1888 the number of deaths in England and Wales attributed to poisoning by accident or negligence was 432, in 1889 it was 376, and in 1890 it comes out at 380. In those three years the suicides by means of poison numbered 268, 260, and 277 respectively.

* * *

A very sensible regulation has recently been enforced by the Minister of Public Instruction in France, to the effect that in all schools and colleges filtered water must be used not only for drinking purposes but for washing salad and glasses and tumblers. It is quite as important that our salads should be washed with pure water as that the water we drink should be freed from all taint, though this point is frequently lost sight of by the householder.

* * *

A bill is to be brought forward by Mr. Mather, M.P., in which it is proposed to confer upon the more important local authorities—namely, county councils, borough councils, and urban sanitary authorities—the power of contributing to the support of those hospitals, infirmaries, etc., which are maintained by voluntary subscriptions, and are not carried on for private profit.

* * *

This is, we consider, a movement entirely in the wrong direction. Not only will it detract from the stimulus to voluntary subscriptions, but it will lower the status of hospital relief. We are aware that many people take advantage of the infirmary who ought to go to a private medical man and pay; but rather this than degrade the hospital to the level of the workhouse. At all hazards let us encourage voluntary effort in support of our charities.

* * *

British Institute of Preventive Medicine.—The following donations, among others, have already been promised:—His Grace the Duke of Westminster, £1000; Ludwig Mond, Esq., £2000; Sir Joseph Lister, Bart., £300; Sir William Roberts, F.R.S., £300; Sir Henry Roscoe, £100; Dr. M. Armand Ruffer, £100; the Right Hon. the Earl of Derby, £1000; His Grace the Duke of Devonshire, £1000; Dr. P. H. Pye-Smith, £105.

A Needle's Wanderings.—Mr. Oliver M. Stiger, a wholesale druggist, of New York, had suffered for years from a violent cough and pains in the right lung, which he attributed to phthisis, but the doctors could find no organic diseases. Afterwards the pain began to move to his left side and back, and finally a needle, to which several inches of thread were attached, emerged under his right shoulder blade. Mr. Stiger, who supposes he must have swallowed the needle, is now quite well.

* * *

The ninth annual dinner of the Sanitary Inspectors' Association took place on Saturday at the First Avenue Hotel, Holborn. Dr. B. W. Richardson presided. In proposing the toast of the evening, he stated that there were many preventable diseases which were caused by ignorance and perversity, bad manners, bad social customs, and by negligence. Towards these diseases the Association turned its attention. He congratulated the Association on having obtained a charter of incorporation. They must have a school connected with the Association—a school of health, in which the laws of health and of all that conduced to make their labours useful would be taught.

Vital Statistics.

Cities and Boroughs.	Population estimated to the middle of the Year 1892.	Registered during the Week ending 2nd April 1892. Births.	Deaths.	Annual Rate per 1000, corresponding to the Week's Deaths from all Causes.
33 Towns ...	10,185,736	6131	4346	22.2
London ...	4,263,294	2498	1753	21.4
West Ham ...	217,113	170	67	16.1
Croydon ...	106,152	51	30	14.7
Brighton ...	116,424	66	44	19.7
Portsmouth ...	163,667	77	62	19.8
Plymouth ...	85,610	49	35	21.3
Bristol ...	223,592	120	108	25.2
Cardiff ...	136,181	96	60	23.0
Swansea ...	92,344	59	47	26.5
Wolverhampton	83,519	46	42	26.2
Birmingham ...	483,526	322	203	21.9
Norwich ...	102,736	54	42	21.3
Leicester ...	177,353	122	74	21.8
Nottingham ...	215,395	106	96	23.2
Derby ...	95,908	56	45	24.5
Birkenhead ...	101,264	50	47	24.2
Liverpool ...	513,790	369	246	25.0
Bolton ...	116,261	56	58	26.0
Manchester ...	510,998	316	275	28.1
Salford ...	201,058	121	91	23.6
Oldham ...	134,221	69	63	24.5
Burnley ...	90,589	54	46	26.5
Blackburn ...	122,238	76	50	21.3
Preston ...	109,038	86	56	26.8
Huddersfield	96,599	47	37	20.0
Halifax ...	84,097	39	43	26.7
Bradford ...	219,262	99	77	18.3
Leeds	375,540	234	177	24.6
Sheffield ...	329,585	209	131	20.7
Hull	204,750	135	74	18.8
Sunderland ...	132,839	86	58	22.8
Gateshead ...	88,588	62	29	17.1
Newcastle-on-Tyne	192,205	131	80	21.7

LIFE AT A "HYDRO."

By the Editor.

When we say or sing, "There's no place like home," we are inculcating a doctrine which is as sound and as healthful as any can be. Those who cannot enjoy home life are truly to be pitied, because they are like ships without anchors, liable to be driven hither and thither on the stormy seas of life, without hope of rest or haven. The sweetest and most hallowed experiences are to be found, not in the market, the field, or the assembly, but at home.

Nevertheless, we do not spend all our lives at the fireside, nor is it possible or even desirable that we should. The heavy strain of modern city life renders necessary an occasional severe and complete change, both to the worried business man and his equally anxious wife. The former must leave his office or his practice, the latter her china and her children, in their own interest as well as that of those who are dependent upon them. Sad as it is that half the world overworks itself in order that the other half may do nothing, it would be still worse were there no respite or remedy. "Hence," says the friend who knows and has tried it, "get you to a hydro.; and if you cannot take the children with you, I'll take charge of them."

Now, although a large number of the intelligent British middle class have become pleasantly acquainted with the ways of these institutions, there is quite one-half of them who have a sort of grudging prejudice against eating and drinking and associating with strangers "promiscuous-like." The wives especially stand in fear and horror of everything that savours, as they think, of hotels; yet it is in great measure an uneasiness arising from want of experience. If the establishment be conducted by serious and sensible people, as most of the established ones are, a hydro. is as comfortable as a friend's house, with the added advantage that the service is more at your own command.

The Hydro. as a Resting-place.

As we have already hinted, numbers of the great middle class are subject to periodical breaks-down. They work too hard, either for Mammon or for their families; and if the history of companies, firms, and adventures generally could be written, it would be found that in the establishment of most of them the health of the prime movers has been shattered either for a time or for ever. Now this appears to outsiders very foolish, indeed almost insane. "Why cannot they take things more slowly and moderately?" says the calm, unbiassed critic. Unfortunately, if we could look well below the surface, we might find that it was just because the calm critic neglected his duty that his brother had to work so hard. And until throughout all society has permeated the idea of self-supporting independence as an universal duty shall we have some who are over-worked and some who won't work at all.

Until this comes to pass, and each knows and does his or her duty, the Hydro. will be a useful restorative. The advantages it offers are many and varied. In the first place there is change of air and surroundings; a change of food, which is usually simple, well cooked, varied, and served at rigidly regular intervals; a complete cessation of the regular duties which have overtaxed the system; a change of company; and a variety of amusements which must appeal to almost any inclination. The body and the mind have thus a chance of being gently restored. The shattered nerves find new and pleasing stimuli. The long spells of work, the not infrequent long fasts which the commercial man finds almost inevitable, are discontinued.

Both men and women are liable to a nervous condition in which the mind cannot be diverted from one subject; it may be business worry in a man, family ties in a woman. The relentless and exhausting duties seem to have worn fretful channels in the system, until the mind refuses to flow except along their narrow grooves. Notwithstanding that there is unfitness even for this exercise, the person usually imagines everything will go wrong if there is the

slightest pause. Imaginary dangers and calamities affright the mind, and rest or sleep become difficult to obtain. This is just the time when the advice is required, "Get you to a Hydro."

The Treatment.

The treatment, which gave its name to the "Hydropathic," consists of the use of water, "cooked and raw" administered in various forms, externally and internally, with and without admixture. Originally, in the severe simplicity of its early days, a glass of hot water last thing at night and first thing in the morning was considered a duty one owed to the establishment. The Turkish bath was then also in its glorious prime; and the "pack" had its adherents, restricted of course to those of extreme views on religious subjects. The "pack," indeed, was sufficient in those days to incur suspicion of "Morisonianism," "Brethrenism," or other deadly heresy.

Now, however, more liberal views prevail. While water still forms almost the only medium of treatment, there is no odium attached to the non-observance of its rites. At least the moral obligation is not so binding. You are no longer catechised by the "direction" as to whether you have duly performed the evening and morning sacrifice. Certain devotees, indeed, are sure to urge upon you the respective claims and advantages of the Turkish, Russian, shower, needle, spout, plunge, or other bath, pack, or poultice. But otherwise the facilities for bathing are really delightful, so long as one is not too much carried away by a sense of duty. After a brisk walk in the open air, for instance, nothing could be more refreshing than, say, a "needle" bath, brought gradually down from an agreeable temperature to about shouting-point. Nearly every other visitor takes at least one bath a day, and this is all on the side of health. Your true and enthusiastic hydropath, however, spends all his time in the water, except when eating, sleeping, or proselytising. If you are amiable, and a likely victim, he button-holes and persecutes you until you are tempted to pray for release. Do not be discouraged, however, as he will shortly glance at his watch and dart away muttering something about being due in "Russia" at 11.15.

(To be continued.)

REVIEWS OF BOOKS.

"Indigestion Clearly Explained, Treated, and Dieted," by Thomas Dutton, M.D. (London: Henry Kimpton, 82 High Holborn.)—This is an excellent little treatise of a popular character, containing a good deal on the *rationale* of digestion and indigestion, which it is desirable for every one to know. Its matter is really good sense and sound advice, and if duly digested will avert many dyspeptic pangs. We feel, however, that the author has not sufficiently forgotten himself in his subject, and we strongly object to the treatment by correspondence which he hints at. As we have before remarked in the *Health Messenger*, a patient must be seen to be medically treated.

"Nursery Hygiene," by Boyd Burnett Joll, M.B. (London: Henry Kimpton.)—Nothing can exceed the importance of this subject, and Dr. Joll has seriously undertaken to instruct guardians and mothers upon it. The matter and the manner of presenting it are in the main entirely commendable, but a little condensation and the use of a larger type would have secured it more hearty perusal. We are inclined to take exception to the unqualified recommendation of condensed milk for children. Perhaps Dr. Joll is not aware that part of the cream is removed in the preparation of some of the cheaper brands to the extent of 80 per cent. We think the high-class makers of the article, such as Nestlé and others, would do well to guarantee their products, so that the medical profession and the public may know on what to depend.

Sale of Liquor to Children.—A public meeting has been held in Liverpool to form a league to prohibit the sale of drink to children. Mr. Thomas Pegrim presided. We heartily wish success to such an effort. It is monstrous that children should be allowed to enter public-houses. This is an evil which the police might greatly lessen if they were required to report on it in every case.

* * *

Death from Anthrax.—A case of death from anthrax having some interest from a casual point of view recently occurred at Greenwich. At the Guarantee Manure Works a labourer who was employed in lifting bags of manure met with a slight abrasion of his arm. The limb began to swell, and the patient died on the fourth day after the accident, in the Seamen's Hospital. At the inquest evidence of anthrax was given, and the coroner's jury returned a verdict of "Death from anthrax from working in a manure factory."

AMBULANCE NOTES.

(*Continued.*)

By R. Purdie, M.B.

Epilepsy.

Epilepsy, or falling sickness, as it is sometimes called, is one of the most cruel complaints that "flesh is heir to." No one who has once seen a person in the struggles of an epileptic seizure will soon forget the painful spectacle, and his sympathy will be deepened by the knowledge that little can be done to alleviate the suffering, and nothing that he can do will shorten the duration of the attack.

Its onset is marked by very great suddenness; generally with one piercing cry the epileptic falls to the ground in a state of complete insensibility. For a second or two the muscles become perfectly rigid, the spasm passing over the whole body; the head becomes twisted to one side; the eye-balls are turned up, showing nothing but the white, and the tongue may be caught and bitten by the teeth. Shortly the muscles relax, to be again thrown into contraction of a spasmodic jerky nature. The head and face are twitched, the head being still drawn to one side, as if looking over the opposite shoulder; the pupils are dilated and the eye-balls roll; the mouth undergoes a chewing, grinding motion, whilst the tongue is often caught and may be severely bitten. The neck and face become livid, congested, and swollen; the breathing is difficult, noisy, and laboured, and froth and blood issue from the mouth; whilst the arms and legs are jerked about in various directions, the whole body in fact undergoing the most horrible contortions.

The duration of the attack is from ten to fifteen minutes. Profuse perspiration breaking out, the muscles relax, the spasmodic movements cease, he probably sighs deeply, and gradually shows signs of returning consciousness. Of course for some time he is left generally in a very exhausted, sleepy condition.

As we have already stated, we can do nothing to shorten the attack; the fit must run its own course. But one thing we can do, and that is to prevent the epileptic injuring himself. He must be laid on anything of a soft nature which is lying handy. A pocket handkerchief tightly rolled up, a piece of india-rubber, a cork, or even a stick, must be inserted between the teeth to prevent the tongue being bitten. He must not, as is frequently done, be forcibly held down; no restraint must be placed upon his movements beyond that which is necessary to prevent injury. As in the excited movements of *delirium tremens* and mania, of chloroform inhalation, and the delirium of fevers, so in the unconscious spasmodic movements of epileptic convulsions, undue restraint intensifies rather than soothes the excited state. All tight clothing must be removed from his neck and chest, so that breathing may not be hampered, and the termination of the attack must then be patiently awaited.

The great and immediate danger from epilepsy is due to its sudden onset, the person injuring his head or otherwise bruising himself by falling on some hard material, or even losing his life by falling in some position of great danger, as, for instance, falling into the fire and being burnt, or falling near a precipice or embankment and rolling over. People who are liable to epileptic fits should guard against being in such circumstances that the occurrence of the seizure might endanger his life, as, for example, riding on horseback, climbing a ladder, etc., etc.

Hysteria.

To the "first aid" student hysteria may be conveniently bracketed with epilepsy, which in many points it somewhat resembles; in their cause and main symptoms, however, they lie far apart. Hysteria, in its more common forms, is generally found in young, nervous women. It is pre-disposed to by too luxurious and indolent surroundings, living in hot rooms, keeping late hours, and indulging too freely in that pernicious and somewhat modern habit of

devouring exciting novels. The nervous system is rendered so weak and excitable that an attack is readily induced by any sudden strain on the system, as by grief, terror, mental anxiety, or disappointment.

Hysteria might be called sham epilepsy, for whilst the hysterical woman falls in a seemingly unconscious fit, she resembles somewhat the fox in the fable that sleeps with one eye open. She sees everything that goes on around her. She never bruises herself, nor does she fall into the fire or tumble over a precipice. Her countenance may be distorted, and she may froth and splutter at the mouth, but she carefully takes care that her tongue is never by any means caught and bitten by the teeth. She has alternate attacks of struggling and quietude, ending usually in an uncontrollable fit of laughter or in a flood of tears. It would be almost impossible to imagine a hysterical fit to be taken with no one present to witness it, as half the enjoyment would otherwise be lost, but in the presence of an audience of pitying, sympathetic friends, a most delicious fit can be commanded at pleasure, and which will be continued either until forcibly arrested, or nature fails, and sleep, that

> "Balm of hurt minds, great nature's second course,
> Chief nourisher in life's feast,"

restore that proper tone and balance to the nervous system.

In the treatment of such a case a firm stand must be taken. Sympathising friends must as far as possible be removed, as their presence only tends to keep up the excitement. Show her by your gentle but firm demeanour that you understand her symptoms thoroughly, and that you are not at all alarmed by her struggles; no danger attends them. A dash of cold water on the face, and the further threat of a cold shower bath will usually do all that is needful for the restoration to a more tranquil state.

Nurses and Infection.—A fine of £5 has been imposed on a nurse at Cardiff for neglecting to change her clothing after attending a scarlet fever patient, although she had been warned by the medical officer of health.

HEALTH AND HOLIDAY:

A Visit to the Mud, Brine, and Pine Baths of Laurvik, Norway.

By RICHARD ELLIS, F.R.C.S., Ed., Senior Surgeon, Newcastle Throat and Ear Hospital, etc.*

Being at Christiania last year, we thought we would, on our way home, visit the far-famed baths of Laurvik. Laurvik is a town situated on the Laurvik Fjord, a short inlet or creek from the Skagerack, about seventy-six miles from Christiania, which means about five hours' railway travelling. Travelling by rail in Norway is a slow, almost a leisurely proceeding, which was an advantage to us, as it enabled us to enjoy the scenery of the Christiania Fjord, which is diversified and charming; by turns, ancient towns, woods, sea-ports, and villages coming into view.

From this panorama mountains and lakes were never long absent. From Laurvik there is a direct line of steamers to Jutland, Copenhagen, and Hamburg, and what is of more importance to us, to Tyne Dock. The voyage to Laurvik occupies about two days from the Tyne, the Christiania steamer calling on its way going and returning. The town is celebrated for its fine terraced situation, and for its bracing and wholesome climate. The town proper, in which the baths, with their sulphurous and ferruginous springs, are situated, occupies the side of a hill facing the south. The soil is dry, porous, and sandy, resting on rock, so that rain and drainage readily find their way into the sea. The water supply is excellent, from an elevated mountain lake. Wooded hills afford protection on three sides—north, east, and west. The baths were founded by Dr. J. E. Holm, of Christiania, in 1880, in consequence of the discovery of an alkaline, saline sulphur spring, the only one hitherto known in Scandinavia containing chloride of sodium, magnesia, besides chloride of potassium, sulphate of lime, etc., sulphide of hydrogen, and sulphide of sodium. This water contains

* Read before the North of England Branch of the British Medical Association.

nearly twice as much sulphur as that of Aix, while the latter is richer in solid parts. About 700 yards from the sulphur springs there are several pure and strong ferruginous springs, which are equal to the best known of this character. The river Lauven falls into the Fjord near the town, and is noted as the best salmon stream in the south of Norway. The fish are large and abundant, and get a long way up the river. The valley of the Lauven presents a variety of picturesque scenery, and charming subjects for the artist. The bathing establishment, which is situated at the sulphur spring, consists of handsome edifice for mineral baths, containing ten apartments, with graduated spray and shower baths, besides two spacious rooms for mud compresses and an apartment for inhalation. The mineral baths consist of (1) saline sea-weed lye baths, containing iodine; (2) sulphur baths direct from the spring, heated by Schwartz's method, with sulphurous mother-lye added; (3) sea and mud baths. There is, besides a hydropathic department with all modern appliances, fir-leaf baths, cold swimming baths from the rich sulphur spring.

The "mother-lye," as it is called or expressed, liquid from marine plants (principally *Laminaria Digitata*), was first brought into general use for bathing purposes (although it had been long in popular use) by Dr. Holm, who delivered a lecture on the subject to the Medical Society of Christiania in 1884, and also on the sea mud (see appended analysis by Schmelck).

The diseases treated at the baths, and which experience shows have derived the greatest benefit, are chronic rheumatism, faucial or general throat catarrh, also catarrh of larynx and posterior nares, chronic inflammation of the uterus and ovaries, scrofula and skin diseases. The iron springs are also largely used in anæmia, or blood poverty, nervous debility, and susceptibility to cold. I was much interested in the sea mud treatment, and the courteous resident physician afforded me every opportunity of observing this method. The mud is about the consistence of cold cream, and is also smooth to the touch. A gentleman patient being about to undergo the mud treatment, kindly obliged me by allowing me to witness the same. He was reclined on his face on a couch, and the bath-man, taking some mud from time to time, rubbed it assiduously over his limbs and body for about half-an-hour in a warm chamber, the mud also, it shall be explained, being previously warmed to a pleasant temperature. After this he was washed down by a tepid shower bath, and I must say he looked as if he required it. Then he was drenched with cold water, and finally polished off, so to speak, with dry warmed towels. I spoke of the mud of having the consistence of cold cream, but here the resemblance ceases, for the odour is not suggestive of roses, and the colour more like shoe-blacking. A patient smeared over with this mud has a ludicrous appearance, and you are forcibly reminded of the futile attempt to scrub a black man white; but in this case the bath-man seems to use his best endeavours to make a white man black. It should be mentioned that the mud is used in other ways—viz., baths, compresses, or poultices to affected organs. The fir-leaf bath is also frequently used after the mud rubbing. The fir bath is an infusion or decoction of the fir leaves, and has a very fine aroma produced by the aromatic oil, which is well known in therapeutics as having a high value in rheumatism and other affections. I was also much pleased with the inhalation room, where throat and nasal affections were, I thought, efficiently treated by the most modern system of spraying, etc. We had a good opportunity of mingling with the patients, some of whom were English, and they all expressed themselves as satisfied with the treatment and the place. The living was good and wholesome, and the charges very moderate, which, indeed, is the rule in Norway. I believe that the conditions for the restoration of impaired health are to be found at Laurvik, at least for many cases, such as pure air and water, fine walks and scenery, society and

music. I have omitted to say that the environs of Laurvik are considered amongst the finest in the south of Norway, and above the baths, on the summit of the hill upon which the town is situated, there is an extensive beech-wood forest; passing through this, and looking down the valley on the opposite side, the eye rested on a most beautiful inland lake, surrounded by hills, in fact a miniature Derwentwater, of which it instantly reminded us.

Most of us will have patients who, without having any positive disease, say that they do not "feel well." We would gladly get them better, but we cannot, and perhaps they are getting a little weary of taking our medicines. Let us send them, and let us go ourselves to Laurvik Baths; and at the same time see this magnificent, interesting, and historical country, and come back—like them—let us hope, renewed and fortified in health.

ANALYSES

of *mother lye* and *sea-mud* from Laurvik.

The lye from sea-weed is clear, brownish, with alkaline reaction, and contains in 1000 grammes about 300 grammes solid matter—viz.:

Chloride of sodium	222.0
Sulphate of potassium	46.5
Iodide of potassium	13.0
Sulphate of sodium	6.3
,, magnesia	2.5
,, lime	0.2

The remainder being principally carbonate and hyposulphite of soda.

The well-known "Kreuznacher Mutterlauge" contains at the same concentration 6.50 *bromide of sodium* and 0.008 *iodide of potassium*.

An analysis of the sea-mud gave the following result: Dried at 100° C. it contained in 1000 parts—

Silicic acid	64.8	Soluble in water and decomposed chloric acid, 219.1
Chloride of sodium	43.5	
Aluminium oxide	36.0	
Ferric oxide	30.0	
Magnesia	17.2	
Lime	15.1	
Chloride of magnesium	5.8	
Sulphate of magnesia	3.4	
,, lime	2.2	
Chloride of potassium	1.1	
Matter insoluble in water and chloric acid	63.55	
Organic matter and water	14.43	
	1000.00	

The microscopic examination kindly carried out by Professor O. Sars showed "that the sea-mud consists principally of variously formed mineral particles (especially quartz granules) and considerable quantities of distomaceæ cellular substance and organic detritis."

It appears from the above that the Laurvik sea-mud is the richest yet examined in this country, both as regards chemical and organic matter. A complete analysis is published in *Tidsskrift for praktisk Medicin*, February 1885.

QUERIES AND COMMENTS.

VITIATED AIR IN AN OFFICE.

To the Editor of "The Health Messenger."

DEAR SIR,—In answer to query by "A Busy Practitioner," I send the following as a rough but reliable test for excess of Carbonic Anhydride in air.

Fill a 10 or, better, 10½ oz. bottle with water, and take it into the room to be tested. Empty it (it is now full of air to be tested). Pour into it half an ounce of good fresh lime-water and shake well. Any cloudiness indicates excess of CO_2. Similarly done in ordinary room no cloudiness results. The amount of CO_2 is also a measure of the amount of nitrogen and other impurities, since they are all exhaled together.—Yours truly,

J. H. ALLAN, F.C.S., Pharmaceutical Chemist.
59 Breck Road, Liverpool.

"THE CAT."

SIR,—It is about the domestic cat, Mr. Editor, I wish, with your permission to ask a question. Some time ago I attended a family seriously ill with diphtheria, and they blamed its introduction to their cat; they said it had sore throat, and died just before the members of the family took ill. As I did not see the sick cat, I would like to know from any of your medical or veterinary readers if such a case was likely.—MEDICUS.

The Health Messenger.

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THE continuation of our article on "Hints for the Sick-Room" is held over until next month.

IN reply to inquiries we may state that it is not our present intention to republish the "Ambulance Notes" and "Sick-Room" articles in a separate form, therefore correspondents are recommended to lay past two copies of each issue of the *Health Messenger*—one for binding, the other as insurance against accident to the first.

AS soon as we can be assured of a regular circulation of twenty thousand a month we purpose adding several new and interesting features. We refrain from mentioning what these are, but look to our readers to "speed the day." To use an entirely original suggestion—if every present purchaser of the *Health Messenger* should during April induce another person to subscribe, the circulation would be doubled in May. Quite simple, you see.

THE same thing may be accomplished if you obtain an extra copy, and after writing your name upon it, post it to that dear friend abroad.

DOMESTIC AND PERSONAL HYGIENE.

Plants and Children.

This is the growing season, and the above should be liberally treated with fresh air. Gardeners, knowing the importance of this to their delicate, half-hardy charges, never let them miss the hours of fresh, bright sun-warmed air. If they do, drooping leaves, stunted growth, lessened vitality throughout the summer, and perhaps early death, may result. So with children. Kindergartners take note.

Garden Mould.

Gardeners, amateur and others, should read these two paragraphs:—"I was thus led to conclude that all the vegetable mould over the whole country has passed many times through, and will again pass many times through, the intestinal canals of worms. Hence the term, 'animal mould,' would be in some respects more appropriate than that commonly used of 'vegetable mould.'"—*Darwin.*

And Lockjaw.

Garden earth swarms with the bacilli of tetanus (lockjaw); hence any wound caused by a garden implement or otherwise, by which even a small particle of the earth may be interposed in the course of the circulation, should be very promptly and thoroughly cleansed and disinfected, with almost as much care as if it were the bite of a mad dog.

Artificial Teeth.

In writing about clothing recently we said that it should be of non-conducting material as regards heat. We are now, however, obliged to except artificial teeth—if these can be called clothing—as it is found that if the plate be made of vulcanite, some persons are liable to sore mouth from over-heating; while if a gold or other metal plate be used, the heat is distributed, and the whole mouth kept equal in temperature. We suspect, however, that the condition and cleanliness has something to do with "rubber sore-mouth." A few drops of "Contra-septine" in the water in which the teeth and mouth are regularly rinsed would probably remove the real cause of the soreness.

Arsenical Wall-Papers.

It is strange how mankind endeavours to make itself famous by differing from its fellows in the smallest matter. Some one has recently proved to his own satisfaction that arsenic is a much abused but perfectly innocent ingredient in wall-papers. The next week the *Lancet* reports a case where distinct symptoms of arsenical poisoning were exhibited by some nurses whose rooms bore green hangings. *Ergo*, avoid this "wearing of the green."

Sour Paste.

As a matter of fact, however, arsenic is not the only danger in wall-paper. Where layer after layer is put upon walls, a growth of mould may take place in the paste which poisons the air of the room. The "sizing," too, with which the walls are prepared is frequently in a state of putrefaction. Hygiene would require us to strip the walls, and then use fresh materials. This is a word in season — spring-cleaning season.

Bed-clothes Fastener.

Those who do not remember being "tucked in" at night during early childhood deserve pity. Not only have they missed the ministrations of gentle hands—ministrations that make the heart tender—but think of the unnecessary cold they caught! The latter, however, can now be avoided by an ingenious invention by Mr. White, called the "Bed-clothes Fastener." It first with one end grips the bed-clothes and then holds them in position by grasping the bed-post with its further end, so that the little restless dreamer cannot kick away its coverings. The prices are 1s. 6d. and 2s. 6d. a pair, and they are said to be sold everywhere by chemists. Mawson, Swan, & Weddell, Newcastle-on-Tyne, are the agents in the north of England.

The Bloodlessness of School Girls.

The *British Medical Journal* quotes some important remarks by a well-known German physician on the subject of the bloodlessness of girls at school. Dr. T. A. Reamy affirms that neglected cases of this class go from bad to worse, and finally die of tuberculor consumption. This is an observation which every experienced physician can confirm from his personal knowledge. The whole question of the school life of girls is one eminently demanding investigation and the application of modern principles of hygiene. Reamy considers that the root of the difficulty lies in the fact that girls at school do not inhale sufficient oxygen; in other words, they suffer, become delicate, and die from want of fresh air. By way of remedying this condition of things he proposes that there should be systematic deep inhalation for twenty minutes twice a day in a perfectly pure outside atmosphere. The deep inspiration should be carried out with the mouth closed, and under intelligent supervision. It is stated that no other known method of treatment more rapidly improves the character of the blood. Reamy, however, does not stop here; he insists that the patient shall

leave school, give up all study, and spend several hours a day in the open air. Most judicious advice. He goes further, and orders abundance of beef-steak and milk. For personal hygiene he prescribes the sponging of the body, including the extremities, every morning, with water of the temperature of the room, and afterwards friction with an ordinary towel. He does not despise blood-making medicine, and we should have very little faith in him if he did. Small doses of iron with a bitter tonic he recommends for continuous use. The question of the health of school girls is one of most serious importance. A deficiency of blood at the developing period of life impairs brain power, and makes school-work so difficult as to be almost impossible. It makes growth stunted, renders the muscles feeble, impairs digestion, brings on constipation, and generally renders the period of girlhood and early womanhood a period of feebleness and misery. The consequences, even when death is escaped, are hardly ever repaired in after life. Many a melancholy mother of children owes her delicate health to the anæmia from which she suffered at school. The daily walk is an altogether inadequate substitute for the two or three hours vigorous romping and play which girls as well as boys need for their healthy development. Teachers of girls' schools, and all parents, would do well to make much more use of the services of intelligent medical men than they now seem disposed to do.—*Hospital.*

Football Surgeon.

Volunteer corps have their surgeons, as well as many other recognised associations, and we recommend the devotees of our national game of football to attach to each club, before next season, a qualified dresser of wounds and fractures, who should be continually on the ground with a full set of ambulance appliances. The following is the *Lancet* list of football casualties:—In a match at Devizes recently between the Devizes Recreation Club and Trowbridge, a player fractured his clavicle.—On the 20th ult., during a game played at Lurgan between the Newry Wanderers and a local team, a youth (one of the former) sustained a bad fracture of the right leg "below the knee," and was conveyed to the infirmary, where he remained under treatment.—On the same day, whilst playing at Farsley, with the Thornhill Lees Trinity against Farsley, a Dewsbury three-quarter back "sprained the muscles of one of his thighs." He was carried to the Farsley head-quarters, and received medical assistance. —On Saturday, during a game between the Gala Second and Hawick Second at Mossilie, a young man who played for Hawick fractured his leg.—On the same day, in a match at Goole, between the Goole and the Wakefield Trinity (second teams), a player was badly injured. Medical assistance was obtained, when it was found he had sustained a serious injury in the groin, and was removed to the Goole Cottage Hospital; and at Linthorpe, whilst playing in a match—Middlesbrough Vulcan and Newport Excelsior—a Vulcan forward had his "nose broken."—On Saturday, during a game at Kingsholme between Gloucester and Exeter, a Gloucester three-quarter back collided with the Exeter back, and was picked up in an unconscious state. He was taken to the infirmary, and on examination was found to be suffering from concussion of the brain.—On the same day, whilst playing at Winchcombe in an Association match between the Evesham Wanderers and Winchcombe, one of the Evesham backs "sprained his ankle, and severely wrenched the muscles and tendons;" and a young man, playing in a game at Acton, fractured his clavicle, and was removed to the University Hospital. Also, in a match played at Crewe between Alexandra Hornets and Nantwich, a Nantwich forward fractured his leg.

THE MEDICINAL PROPERTIES OF DRESS.

By John Hogben.

Readers of this journal have recently had the "Philosophy of Clothing" brought before them in pleasant and profitable ways. There may be room to say a little about the medicinal qualities of dress. Of course, inasmuch as a warm dress cures shivering, and a cool dress cures undue perspiration, clothing generally may be regarded as a curative agent. There is in this view, however, the understanding that the thing cured by one kind is caused by another sort of dress, and is therefore no natural ailment at all, properly so called. But, besides, it is not only of the actual matter-of-fact cure of bodily disease that this little article treats. It has to do with the influence dress exercises on the mind and disposition as well. These, as we know, have their trifling ailments as well as their "rooted sorrows."

There can be no manner of doubt that the stronger sex, as well as what is known as the weaker, find dress a means of bettering their

condition one way or another—the younger members of the male persuasion at any rate. But I leave a lady to deal with this side of the question, and for the most part, indeed, call upon Jean Paul Richter to speak of ladies' dress as a medicine, while I modestly prune his sentences. Was ever so exuberent a writer as Jean Paul? So rich; so allusive; so fluent. You hold a cup up to him—of what ware you please, and what size you may—and while he fills it he drenches you with overplus. You ask for bread and he gives you—a stone, it may be, but a precious one, which purchases for you an estate, with rich wheat-growing loam above and mineral beds beneath. A very little of him goes a long way, and one may cut him down freely, though with inward regrets, to suit a day which believes, above all things, in "bits" (illustrated or not) and "cuts" (short or otherwise). It is, then, in one of Richter's fantastic digressions in "The Invisible Lodge" that we find him funning to the top of his bent on our subject. There is, of course, the fling at the medical man in general—which is not peculiar to Richter. Afterwards come his own recipes. Having premised that as the life of birds is lengthened by moulting, so is it with women; seeing, as he puts it, the latter are always ailing until they have new plumage. He does not attempt a therapeutic explanation, but insists on the truth of his words. It follows that the upper ten are the more sickly, being more given to change of dress. These are likened to "swamp-salamanders"—whatever those may be—that shed their skins every five days. But the truth is, Jean Paul ought to have placed his numeral in front of his "skins," and concluded with a substantive in the singular. Seeing clothes give sicknesses, hectic, plague, etc., what he calls a "sensible" physician should be able to remove diseases thereby. Then he—or rather the Dr. Fenk of his story—furnishes out of his *materia medica* these medicinal neckerchiefs, dresses, etc.:—

"For steel medicines, steel rosettes and steel chains.

"The precious stones which were formerly supplied from apothecaries' shops are even now good to be used outwardly.

"Bouquets, provided they are of silk, are probated medical plants, and by their perfume strengthen the brain.

"Shawls are healing to the breast, and (not a red thread, which is a superstition, but) a necklace with a medallion is, according to modern physicians, serviceable to diseased necks.

"With Peruvian bark much imposition has been practised, but the genuine is a frock *a la Peruvienne.*

"As, according to the modern surgery, all wounds are healed by mere covering, so, instead of the English taffeta plaster, mere taffeta on the body renders the same service.

"A new visiting-fan is, in violent swoons, indispensable; but whether a muff should be classed among emollient remedies, false *tours* among setons, and a parasol among cooling medicines, and dress-trimmings under the head of trusses and bandages, this question one or three hundred cases cannot yet settle.

"We prefer to insist upon this, that a frizzling comb is a trepanning instrument for headache, a repeating-watch for an intermittent fever, and a ball-dress is a panacea.

"And so, therefore, to speak jocosely, the ladies' tailor is an operator; his sewing-finger a *digitus medicus;* his finger-hat (as we Germans call the thimble) a doctor's hat."

To leave Richter behind—as, indeed, he hereafter leaves our subject—and to talk a little more seriously, there is more than warmth and comfort in dress. Call it imbecile if you will, dress, none the less, brings, in a multitude of cases, a sort of warmth to the root of the mercury of self-respect, which rises in consequence. What says Tennyson's "Northern Farmer"?—whether Sammy takes it in or not—

"Tis'n them as 'as munny 'as breäks into 'ouses an' steäls,
Them as 'as coäts to their backs an' taäkes their regular meals."

Diogenes in his tub no doubt would grin sardonically were he stationed at a Piccadilly corner. But however plentiful the tub may be, in these days, such contents as it had in a memorable time far astern are neither "made in Germany, nor packed in France" (toys and sardines having none the less their proper functions!), and a large proportion of the race is distinctly the better for the clothes worn. "A man's a man?" Just so, and therefore moved

by tiny factors. A working girl, trim and clean though she be through the week, will not fail to find refinement creep inwards because of her Sunday apparel. She may abuse that refinement and knock it down before it reaches the citadel of her heart, but in many cases she will seek to rise to the occasion. A draggle-tailed woman looks glum as a rule; a well-dressed woman seems to have partaken of the medicine of content, and appears on good terms with herself and everybody else. There is a subtle infection at work. The external challenges and incites the internal to a contest. If cleanliness be next of kin to godliness, neatness may be said to be on cousinly terms, to say no more. Colour, form, and quality in dress have all their mental counterparts, and may, indeed, make for righteousness, when the circle of contact is complete. I have heard of an old couple who received at their golden wedding a present of a teapot, which seemed in their eyes of a quality beyond its surroundings, if not above their deserts. The first Sunday after the presentation, the teapot being placed on the table, the old dame looked at it fondly through her glasses, then lifting her gaze to her husband, she sighed and (devoutly, no doubt) uttered these words, "Now, John, let us try to live up to it!" That is it. "Sally in our alley" at her Saturday-night scrub is a different girl altogether from the Sally who issues forth on the day that comes between Saturday and Monday, to make use of her lover's gentle circumlocution, and she probably tries to live up to her feathered hat, or, it may be, striped parasol. To blame her is to destroy her.

Does a low-toned voice from Chelsea, but with a Scotch accent, drone its benedictions on those who see through the clothes into the veritable mystery within, after such paragraphs as these have been sung lightly in the ears? The truth as it is in Carlyle, no doubt, and in all true men likewise! Still, it is only another mystery, after all, that the apparently unimportant item of dress has healing under its wings, sleeves, and flounces for at least one out of every hundred of "the thousand ills that flesh is heir to."

PREVENTION versus CURE.

(Continued.)

By A. Blair, M.B.

As it is obviously of the utmost importance that the development of mind and body should be in a healthy direction from earliest childhood, in any scheme of preventive medicine the education of the young must claim a large share of attention. At the very outset we are brought face to face with a fundamental error, an error which is all but universal. It is that mere intellectual training is education, and that intellectual training properly and necessarily consists in the accumulation of information, and the "grinding up" of facts. This error, to use the words of Mr. Carter, is "begotten by ignorance, nursed by prejudice, and ushered into vigorous life under the patronage of those twin demons of modern civilisation — unrestricted competition and payment by results;" and until the higher and truer idea of education is grasped as the co-ordinate and interdependent development of intellectual, moral, and, last but not least, physical faculty, we shall not get far on the road of educational reform. The present system appears to be the result of a general view that the well-being of the mind is especially the teacher's business, that to look after the moral well-being belongs to the parents; while the poor child is left as best it can to pay attention to the require-

ments of its own body, at any rate beyond a few elementary and routine practices. But apart from so dangerous a subdivision of responsibilities, what grounds are there for assuming that the careful discipline which all agree in considering necessary for the mind should be altogether denied to the body? There is no mind apart from body; the mind is as much a part of the body as the hand, and surely proper development of the body is a necessary antecedent of proper mental development; and in order to subsequent mental development, the younger the child the greater should be the proportion of physical to mental training. It is upon a recognition of this principle that the Kindergarten system—a system of sound common sense—is based; and not until seven years of age can the Kindergarten be advantageously changed for the ordinary system, and the child brought face to face with abstract ideas.

It is a regrettable fact that, at an absurdly early age, the children of the poorer classes in England are, under compulsion, subjected to a forcing and injurious system of mental education; and to this, in some measure, is justly ascribed the marked contrast in physical stamina between so many of the youth of the present day and the intellectually less-cultured of a pre-educational period. The first ten years of life, which should be primarily and specially devoted to physical training, are devoted to an attempted development of the mental powers, the child when a mere infant being compelled to attend school, the immature brain being forced into abnormal and disastrous activity. On its return home, jaded in mind and body, to prepare for next day's task, such a child is quite unfit for the enjoyment of the physical exercise so essential for its bodily development and health; and during the first eight or ten years of child-life the amount of mental cultivation which the brain is capable of receiving with permanent advantage is much less than generally believed. Need we wonder that among the results of over-pressure we have cephalitis, cerebritis, and meningitis, as well as headache, sleeplessness, and neuroses of every kind?

But the physical or mental education of the young is not so immediately under our control as are many other ways in which we might exercise the principles, and derive benefit from the adoption of preventive medicine. And having already mentioned the question of the benefit of physical exercise in the young, we may glance at its bearing on the prevention of disease in adult life.

Nothing does more for the production of a hardy, vigorous, and healthy frame than exercise properly regulated and controlled. And let it be noted work is not exercise. There is no greater error than to suppose that because a man or growing lad has to do hard work, he is getting sufficient, if not indeed too much, exercise. The argument should be entirely the other way. And for this reason. Every man at his ordinary employment necessarily assumes a certain posture or postures, which he maintains more or less throughout the entire day. The result is, that certain muscles, as well as ligaments, are much more brought into action than others; those that are intermittently exercised will increase in bulk and strength, while those that are kept constantly on the stretch become atrophied and weakened, and the article which is subjected to such treatment becomes a being of twisted frame and unequally developed muscles. The antidote is regulated exercise during leisure hours.

(To be continued.)

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

College President (sternly to misguided youth): "I hear you have a cask of wine in your room?"

Youth: "Yes, but the doctor ordered me to take wine for strength, sir."

College President (less sternly): "And are you growing stronger?"

Youth: "Yes, I know I am, for when the cask was first brought I could scarcely lift it, and now I can carry it about with great ease." —*Pharm. Era.*

Teacher: "Now, children, here we have the word 'Intuition.' Who can tell me what it means?" Phenomenally bright scholar: "Intuition is that faculty of the human mind which enables a person to distinguish at a glance a patent medicine advertisement from a real news article."

Absent-minded.—Patient: "Doctor, there seems to be something wrong with this prescription."

Physician: "Ah, yes, I see. I have made a slight mistake. I've made out the bill instead of the order for the medicine."—*Pharm. Era.*

An editor, who does not mind a joke at his own expense, says he went into a chemist's shop recently, and asked for some morphine. The assistant objected to giving it without a prescription. "Why," asked the editor, "do I look like a man who would kill himself?" "I don't know," said the assistant; "if I looked like you I should be tempted."

A Bermondsey Chemist tells us the following medicines are in more or less frequent demand at his counter:—Lodgingers for sore throat; hard sweet oil; yellow man's silly man's ointment; pacific ointment; precipice ointment; syrup of Saturday; intellectual lozenges; sensitive electricity; linnet election; sick ointment; oil of cabbage; oil of man; oil of Christ; William's pills (for antibilious); "something to make me better;" a powder for baby ten years old; a bottle of convoluids (pink).—*Chemist and Druggist.*

First Passenger: "See that splendid mansion over there. It's a beautiful place, but it makes a man sad to look at it."

Second Passenger: "Why so?"

"Because of its history, for it was built up of the groans, tears, wailings, and blood of widows, orphans, old men, and struggling women."

"Goodness gracious!"

"Yes, it was erected by a fashionable and successful dentist."

Anxious Mother (to her own sick little Tommy): "Do you feel better, dear?"

Tommy: "Is it past school-time?"

Anxious Mother: "Yes, dear."

Tommy: "Then I feel better."—*Pharm. Era.*

Physician (to shivering patient): "If you'd followed my prescription you'd have been warm in less than no time."

Patient: "I know it, for I threw the prescription into the fire."—*Pharm. Era.*

Too Late.—"How much is a dose of croton oil," inquired a professor of a member of his class. "A teaspoonful," was the ready reply. The professor made no comment, and the fellow soon realised that he had made a mistake. After a quarter of an hour he said, "Professor, I want to change my answer to that question." "It's too late, Mr. ——," responded the preceptor, looking at his watch; "your patient's been dead fourteen minutes."

Child (reading patent medicine pamphlet): "'For children one pill, pounded in jelly, syrup, etc.' Mother, I would like it in that third thing; what is etch?"

Old Lady (to Chemist): "I want a box of canine pills."

Chemist: "What's the matter with the dog?"

Old Lady (indignantly): "I want you to know, sir, that my husband is a gentleman."

Chemist puts up some quinine pills in profound silence.

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Graham, R., 110 Eglington Street.
Leicester ... Oldershaw, C., Granby Street.
Manchester Heywood (Abel) & Son, Oldham Street.
Mexboro' ... Office of *Mexboro' and Swinton Times.*
Newcastle-on-Tyne. Ross, C. C., The Side.
Scott, G. W., 30½ Westmoreland Street.
Oldham..... Pollard, G., 13 Union Street.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

In England it is better, hygienically, to be a pauper than a working-man, better to be a criminal than a pauper, and better to be an inmate of a hospital than either a rich or a poor man, a pauper or a criminal.

* * *

That is to say if the ventilation provided for each be any criterion. The amount of air allowed for each person is in a workhouse 300 cubic feet, in a prison 600, in a hospital 1000. The working-man frequently has to be content with under 250 feet, and the rich man in his sleeping apartment often has no more than the criminal. Does this prove that society is most careful of the least useful of its members?

* * *

Some people have been led astray by a passage in Mr. Goschen's speech on the budget, where he remarked that the aggregate incomes of medical men amounted to more than the total incomes of the cotton lords. As here put the matter is clear enough, but a daily contemporary understood, and wrote an article on the supposition, that a medical man's income was greater than that of a cotton lord. What Mr. Goschen inferred might be easily paraphrased thus: "Three thousand cotton manufacturers can earn as much as thirty thousand medical men," and much more easily.

* * *

Following the frequent deaths caused by "patent" medicines, and the urgent call by coroners throughout the country for some check upon their sale by unregistered persons, the Pharmaceutical Society has undertaken a crusade in the public interest, and has successfully prosecuted the manufacturer for selling "Chlorodyne" without its being labelled poison. The *Lancet* says—"For a medicine, even a patent medicine, containing 15 per cent. of chloroform and two grains to the ounce of morphine, to be retailed without any warning, all over the

country, by drapers, grocers, and chandlers, is surely to invite accidents." We would direct our readers to the article "About Patent Medicines," in our present issue, for further information on the subject.

* * *

Professor George Hare Philipson, M.A., M.D., D.C.L., F.R.C.P., has been elected the representative of the University of Durham on the General Council of Medical Education and Registration of the United Kingdom.

* * *

Funeral Reform.—As an indication of the increasing attention paid to matters of funeral reform, it is satisfactory to note that at the obsequies of Sir James Allport the mourners, by special request of the deceased, did not uncover their heads beside the grave.

* * *

Hydatid disease, which is principally caused by drinking impure water containing the eggs of the *tænia echinococcus*, is now a national disease in Australia. The hydatid may be formed in the liver, the heart, the brain, and other organs. Filtration of the drinking water through a reliable medium, such as Mawson's filter, is an absolutely certain preventive.

* * *

A curious story of blood poisoning comes from Liverpool. The practice of stopping the bleeding of a wound by covering it with a cobweb is familiar to most people. A woman who had cut her hand endeavoured to stop the bleeding in this manner, but soon afterwards blood poisoning set in, and she died. The result of this points a moral. If people use cobwebs, they should be careful that the cobweb, like any other dressing, is free from dirt. It is probable that in this case there was dirt of a poisonous nature on the cobweb used, though no direct evidence seems to have been adduced to prove this.

* * *

The hunting of the bacillus, which no doubt forms one of the most exciting pastimes of the scientist of the nineteenth century, and has not the drawback incidental to fox-hunting that the quarry requires preserving, has led, so it is asserted, to the discovery of the germ which is the cause of measles, and to what end? We have discovered a good many germs during the past few years without much benefit, for we seem as far as ever from knowing how to counteract their effects. Modern science does not appear to know much more about microbes than can be gleaned from Sanskrit treatises on medicine.—*Hospital.*

* * *

It is believed that the world's population is increasing at the rate of nearly 6,000,000 a year.

Latest Vital Statistics.

The population of the United Kingdom in the middle of 1892 is estimated, on the basis of the recent enumerations, at 38,109,329 persons; that of England and Wales at 29,403,346, of Scotland at 4,063,451, and of Ireland at 4,642,532.

* * *

In the United Kingdom 177,132 births and 235,606 deaths were registered in the three months ending 31st March 1892. The natural increase of population was, therefore, 41,526. The registered number of persons married in the quarter ending 31st December 1891 was 155,840.

* * *

The birth-rate in the United Kingdom in the first quarter of 1892 was 29.2, and the death-rate 24.8 per 1000. The marriage-rate in the fourth quarter of 1891 was 16.4 per 1000.

Home Towns.	Population.	Dth. Rate	Foreign Cities.	Population.	Dth. Rate
London	4,263,294	19	Calcutta ...	466,460	28
West Ham...	217,113	16	Bombay ...	821,764	35
Croydon.....	106,152	10	Madras	452,518	36
Brighton ...	116,424	9	Paris	2,424,705	24
Portsmouth..	163,667	11	Brussels ...	476,254	21
Plymouth ...	85,610	18	Amsterdam.	417,539	20
Bristol	223,592	23	Rotterdam..	209,136	30
Cardiff	136,181	17	The Hague..	160,531	21
Swansea	92,344	19	Copenhagen	326,000	21
Wolverh'ton.	83,519	21	Stockholm..	248,051	19
Birmingham.	483,526	24	Christiania..	151,130	25
Norwich.....	102,736	18	St. Petersbg.	954,400	26
Leicester.....	180,066	23	Berlin	1,609,536	19
Nottingham.	215,395	15	Hamburg ...	637,686	22
Derby.....	95,908	20	Dresden ...	286,200	22
Birkenhead..	101,264	27	Breslau	339,318	27
Liverpool ...	513,790	27	Munich	366,000	31
Bolton..	116,261	20	Vienna	1,406,933	25
Manchester..	510,998	26	Prague	321,167	32
Salford	201,058	20	Buda-Pesth.	526,263	33
Oldham	134,221	19	Trieste	157,343	34
Burnley	90,589	22	Rome.....	436,179	22
Blackburn ...	122,238	18	Venice	161,130	24
Preston	109,038	19	Cairo	374,838	39
Huddersfield	96,599	22	Alexandria.	231,396	44
Halifax	84,097	24	New York...	1,680,796	29
Bradford ...	219,262	22	Brooklyn ...	888,780	24
Leeds	375,540	22	Philadelph'a	1,092,168	23
Sheffield.....	329,585	22	New Orleans	254,000	27
Hull	204,750	18			
Sunderland..	132,839	24			
Gateshead ...	88,588	17			
Newcastle ...	192,205	18			
Edinburgh...	264,787	21			
Glasgow	669,059	23			
Dublin	349,594	43			

LIFE AT A "HYDRO."

(Continued.)

By the Editor.

Although the "treatment" is now considered secondary to the rest, change, and recreations, yet in many cases it is necessary to find some special occupation for the thoughts of those who are inclined to worry or hypochondria, and the baths afford this in an innocent manner. "They make the day pass nicely," said one who had been ordered to the water during every hour not staked out for meals, walks, and sleep. If inclined to brood over your troubles, a mustard pack for twenty minutes gives food for other thoughts during at least two hours after the operation. The bookworm may be conveniently withdrawn from his baneful studies by consignment to the leisurely tender mercies of the "Turkish" or "Russian."

These are not the only means, however, for withdrawing the mind from the deep furrows and channels of business, professional, or family care. At nearly all of the larger hydros. excursions are of daily occurrence, when those desirous of driving into the surrounding country, or to some special place of interest, may do so in pleasant company at a moderate cost. Outdoor games, such as tennis, golf, and cricket, are usually provided for, while evenings and wet weather are made jocund by music, games, and dancing. Some establishments, such as "Craiglands" at Ilkley, have large recreation halls, where concerts and occasional theatrical rehearsals succeed in congregating and exhibiting talents of no mean order. On these occasions every one who can sing, play, or act is generally brought into requisition. The maturer ladies who disapprove of the stage can find congenial occupation in a friendly "rubber" in the drawing-room.

All sorts and nearly all conditions of people may be met at a hydro., and so great are the facilities for companionship that very little time is usually needed to "segregate the similarities"—that is, for like to draw to like. Here the English reticence undergoes a thaw, and although each regards the other with a wholesome suspicion until some inkling of your habitat and belongings is dropped, the world is such a little place, that if you hail from canny Newcastle, and your right-hand neighbour from Southport, it will be very strange if you do not manage to discover some "mutual friend." As with the treatment and the amusements, however, the company is not compulsory, and should you find no one with whom you can associate, the remainder of the visitors will not greatly grieve over your exclusiveness.

For those who wish gaiety and love a crowd, the early autumn or the Eastertide will be the most agreeable season. The quiet family visitor, and those who require real rest, should avoid these seasons, when the bustle and gaiety are apt to annoy or excite. The attendance also is naturally more perfect when the establishment is not taxed to its utmost limits, and for a first visit we should recommend the months of February, June, or November. There is one curious and modern feature of the hydro., in which it resembles the American hotel boarding system. Many persons free from immediate ties, who desire also to escape the worries of housekeeping, give up their own permanent establishment and retire to a hydro., or move from one to another at different seasons. This will probably not have the approval of the majority of English people, who above all things believe in "home, sweet home," but new times bring new habits, and to many lonely persons it will give fuller and pleasanter life.

A Voracious Lunatic.—In the report of the Aberdeen Royal Lunatic Asylum occurs the following passage regarding a female patient:—"Everything went on as satisfactorily as could have been expected until July 27th, when she was seized with great vomiting and pain in the epigastric region. Without entering on full medical details it may be briefly stated that, from the aforesaid date till the second week of October, the patient passed no fewer than 125 pins and sewing needles, with, in addition, many darning needles and hairpins; also a pair of spectacles in pieces and a crochet needle."

AMBULANCE NOTES.

(*Continued.*)

By R. Purdie, M.B.

Alcoholism—Alcoholic Poisoning.

Opinion still sways round that debatable point, whether alcohol taken in microscopic quantities does or does not do harm to the system; whether the proverbial "thimble-full" or the evening "night-cap" may be taken with impunity. There seems, however, to be almost universal agreement that it is not an actual necessity in the human economy, and that it is almost invariably hurtful if taken in excess; women apparently being more susceptible to its injurious influences than men. Especially does the system suffer if the evil habit be indulged in of taking spirits at all hours of the day. As water by continuous dropping hollows out the hardest stone, so in the strongest constitutions does the pernicious habit of "nipping" from morning till night cause

> "The little rift within the lute
> That soon will make the music mute."

It is not, however, in its lesser physiological action that in ambulance work we have particularly to deal. Whether during the evening's libations the pleasing, exhilarating feeling, when the nerve-cells dance in their new-found liberty, when thought crowds upon thought through the highways of the brain, and speech finds ready utterance, is at all an equivalent for the inevitable collapse which soon follows; when the continued dull headache, the furred tongue, the nausea, the depressed mental and physical energy, and when "our better self" again holds sway,—whether, in fact, under the influence of alcohol in its varied forms "the pleasures of the evening will bear the reflections of the morning," we fortunately have not to decide. At best it but too often proves a false friend, that entering into a man's body, ends by stealing away his brains or his health.

It is with the action of alcohol in its more intense form that we are concerned.

There is a form of acute poisoning, not uncommon, when from bravado, or in consequence of a bet, a man foolishly swallows a large quantity of spirits. Here the profound shock given to the nervous system causes death, if not immediately, at most in a few hours.

When a man is deeply intoxicated, when he is said to be "dead drunk," he is generally found lying in a state of almost perfect insensibility; his face is flushed, the eyes fixed, red, and congested, and the pupils generally equally dilated; the skin is bathed in perspiration, the breath smells strongly of spirits, and the temperature of the body is lower than normal, due to the action of the alcohol on the blood. It is this peculiar action of alcohol in lowering the temperature that gives rise to one of the great dangers of intoxication. A man having indulged too freely, totters home on a cold winter night; gradually his thoughts become confused, his power of thinking or walking fails, and he falls, overcome by stupor. As the cold increases, his temperature gradually lowers, due not only to the increasing cold of the night, but, in addition, to the toxic effect of the alcohol; his vital powers become weaker, and he passes insensibly into the sleep of death. On finding a man in such condition and circumstances, it will become a question of Christian ethics whether we should have him removed to a place of safety, and proper restoratives applied, or whether we should, by "passing by on the other side," leave him to his inevitable fate.

As in all cases of poisoning, so here our action must be prompt and energetic. We must endeavour to rouse him from his state of insensibility as soon as possible. Apply the cold or alternate cold and hot water douche to his head, flap him with the wet end of a towel, pinch him and shout at him until he is sufficiently roused to swallow; then give him an emetic of mustard and water (one tablespoonful of the powder in water), or ipecacuanha wine (two tablespoonfuls in water). After he has got rid of the contents of the stomach by vomiting, give him a pint of hot, strong coffee. Coffee is

a powerful stimulant to the nervous system; it increases the temperature, whilst alcohol diminishes it; it also rouses the muscular system in an astonishing manner, whereas alcohol produces a very doubtful and very temporary excitement. Coffee may therefore be considered as a powerful antidote to alcohol. It is probably for this reason that the custom of taking coffee after dinner first came into vogue. The patient must then be put to bed, and warmth of the body be still further induced by friction with warm towels and flannels, and hot bottles applied to his feet.

A word of caution must here be given against assuming that all cases of insensibility, when the person smells strongly of spirits, are necessarily cases of intoxication. "Drunk or dying" is often difficult to determine, as the records of our police courts too frequently tell us.

(*To be continued.*)

ABOUT PATENT MEDICINES.

By the Editor.

Although Patent Medicines are, in the mouths of the public, "as familiar as household words," there are few subjects affecting common life on which there is less information. Beyond such statements as that "you have used them and found them answer," or that they are "worth a guinea a box," the manufacturers do not take the public into their entire confidence. But even were they to do so, it would not be much to the general good, because however valuable the medicines might be—and many of them are certainly most useful if administered in suitable cases—people dearly love a mystery, and often value most what they least understand. Were Mr. Beecham, for instance, to publish the formula of his pills, we doubt whether more of them would be used than as they are now, surrounded with the mystery, the startling announcement, and the government stamp.

The most curious fact about "Patent" Medicines is that they are not patent at all in any sense of the word. We say of something that "it must be patent to every one," when we mean "it must be evident, clear, unmistakable." The composition of these medicines being secret, however, they are exactly the reverse of the usual meaning of patent. In the more restricted and technical sense, too, these medicines are not in any way protected by Her Majesty's Royal Letters Patent. The few chemicals, such as antipyrin, which are prepared under a protected process, are wholly exempt from the medicine stamp, so we might say that while a "Patent" Medicine is neither patented nor protected, a "patented" one is not liable to the duties and restrictions of a "Patent Medicine." We hope this is sufficiently clear, but if not we would refer the "befogged" to Alpe's handbook on the subject, and if still bewildered, to the lunatic asylum.

The Medicine Stamp.

Having now ascertained that there are no patent medicines, let us consider the stamp duty which is payable on them. When our rulers found the feudal system, which demanded personal service, slipping away from them, they deemed it necessary to tax the people in some other way to maintain governmental institutions, military and civil. To make sure that every one should contribute to the revenue, they began by taxing first those articles which people could not do without, and the first they hit upon were the heads of their subjects. The poll-tax, however, was never popular, as the article laid under tribute was itself capable of maintaining a system of universal grumbling. The medicine stamp is a very much later effort than that, and belongs to the period when our needy rulers were reduced to lay an impost upon such trifles as daily bread, soap, sunlight, and intelligence. Most of these taxes have disappeared, although that levied on corn, paper, and windows died hard. The medicine stamp duty survives, not because it was more politic, or more statesmanlike than the newspaper stamp, but because its paltry dimensions could not arouse a sufficient amount of popular interest or indignation to cause its repeal.

The Advantages of the Stamp.

This reminds us of the famous treatise on the snakes of Ireland. It has no advantages, either to the manufacturer or the public. It does not give the former that protection from imitators that a real patent or trade mark affords. On the other hand, it is

No Guarantee of Safety

or efficacy to the public. If a pair of scales be stamped by a Government inspector, there is some ground for supposing they are fit for use; but the medicine stamp neither acquits nor condemns. The article it covers may be as harmless as an acidulated drop, or it may be a deadly poison. The public misunderstanding of this has led all medical authorities, including the editors of the *Lancet* and *British Medical Journal*, to advocate strongly the abolition of the stamp, because to the uninformed it gives a false idea of security or efficacy. It is

Merely a Matter of Revenue,

and not of large importance in a great state like ours. The amount yielded in 1890 by the

medicine stamps and licences was £217,262, and few minor taxes have ever aroused so much irritation and odium in collecting.

The Liability to Stamp Duty.

The public usually understands as a "Patent" Medicine one which is largely advertised and recommended for all and sundry, such as Beecham's or Holloway's Pills or Mother Siegel's Syrup. This was evidently and avowedly the first intention of the Medicine Stamp Acts, which distinctly named in a schedule the "quack" medicines upon which duty was payable. But the wording of the Acts opened up a chance for extracting a little revenue from nearly every one dealing in and compounding drugs.

"Where there is any occult art or secret for making or preparing; where there is claimed any exclusive right or title to making or preparing; where there is any recommendation for the prevention, cure, or relief of any distemper, malady, ailment, disorder, or complaint incident to or in anywise affecting the human body," these are the general grounds of liability to medicine stamp duty.

Now consider what this implies, or may be held to imply. Every person in business endeavours, or ought to endeavour, to excel his neighbours in skill and care, and if he succeeds in devising improved methods or products, he either keeps the secret to himself or protects it by letters patent. All other trades or professions are free to do this, and are subject to no other charge; but the

CHEMIST'S BRAINS ARE TAXED.

He must pay 10 to 15 per cent. or more upon the retail price of all the product of his art, skill, or secret. And for this he has no protection, no claim in return. It gives him no patent right or legal surety whatever.

Or, again, if without claiming any art or secret he merely wishes to persuade the public that they would do well to buy wares having his name attached in a proprietary sense, say "Mawson's Quinine Wine," or "Smith's Ipecacuan Lozenges." Every other trade and calling can make free use of this form of announcement, as, for instance, Delacre's Cocoa, Colman's Mustard; but with medicines the case is different. The

CHEMIST'S VERY NAME IS TAXED.

The Inland Revenue authorities claim the possessive case as applied to medicines, and charge 10 or 15 per cent. on their retail value if it be attached to them.

Either of the above circumstances alone renders the medicine stamp necessary, and there is a third ground—namely, recommendation for the prevention, relief, and cure of any ailment. Now it is well known that all medicines are for the purpose of preventing, curing, or relieving—that, indeed, this is what makes them medicines. It is likewise understood that all remedies are not equally good for the same ailment. One is used for one disorder, another for another. It is important that people should not confound the uses of medicine, and apply the round drug to the square complaint. All other persons are allowed to describe their goods, to show their uses and properties, and to recommend them, if they so desire, to the top of their bent. But the

CHEMIST'S MOUTH IS TAXED.

He is not allowed to describe the various uses of a medicine, even when it is required for the safety of the public. For instance, tincture of arnica is used in its strong form for toothache; it is also used in a largely diluted form as a lotion for bruises. If used for the latter purpose in full strength it might give rise to erysipelas or other serious consequences. But the law prohibits, under a heavy tax, or a still heavier fine, the use of a label describing these various uses.

The result of these universal restrictions upon the mind and enterprise of the chemist is most peculiar. Owing to the trifling nature of many of his sales, which could not possibly allow a tax of three-halfpence—that being the lowest stamp—his life is in great measure a constant and

SYSTEMATIC EVASION OF THE LAW,

by side-ways, allowed exceptions, and legal quibbles. The worst feature of the matter for him is the uncertainty as to what is "not liable." Everything, or nearly everything he sells is under one circumstance or another liable to duty. But what these circumstances are, no chemist, living or dead, and no Somerset House authority, high or low, has ever been able accurately to define. This

UNCERTAINTY OF THE LAW

constitutes one of the greatest trials of the modern chemist and druggist. Not a day passes but he may be visited by a polite person, male or female, who, incited by a sense of duty, or, as is alleged, a prospect of "*half the fines or mitigated penalties*," purchases sundry articles which may be brought under the category as "liable."

As most chemists prefer to pay the fine demanded rather than fight such a powerful opponent as Her Majesty's Government, very few cases have been seriously tested in the law court, one of the most famous being that of

"Lamplough's Saline," which was declared exempt from stamp duty on the remarkable ground that it was a "powder for preparing natural or artificial mineral water"—these waters being exceptions to the law. It therefore happens that hundreds of cultured and law-abiding citizens are fined for offences of which they have never been tried, and of which they doubt very gravely if they have been guilty.

For this reason also the reading of the law is left to successive generations at Somerset House. Even if this reading were uniform and reliable, matters would not be so unsatisfactory; but a label which one Secretary acquits another condemns, and conditions allowed one week or one year may be rescinded the next. We have in our possession labels which are identical, and have been stamped by the authorities—

"LIABLE" in May, and
"NOT LIABLE" in July; also
"LIABLE" on February 15th,
"NOT LIABLE" on February 19th.

Many similar instances can be cited, showing that dutiability is largely a matter of opinion, and proving that the authorities themselves are unable clearly to define the law.

Every courtesy and kindness is shown by the Secretary of Inland Revenue in stating to chemists who send him labels whether he considers they fall under the liability; but the very fact that thousands of labels require thus to be submitted proves our assertion, that chemists are compelled to resort to a systematic and legal evasion of the law.

When we began our article we merely wished to throw some general light upon "Patent Medicines," but we now seem engaged in an indictment of the stamp. Considering that it "taxes a man when he is down"—a proceeding much more reprehensible than laying tribute on the breakfast table; that it harasses a whole class of educated tradesmen in the discharge of their serious work, which so nearly concerns the public health; that it prevents being put upon medicines those instructions necessary for public safety; that it frequently covers deadly poisons which would, apart from its use, require to be distinctly labelled; that to many persons it gives a false idea of safety and efficacy; —considering all these things, we think it is time the antiquated Medicine Tax should follow the corn tax, window tax, and the newspaper tax into decent extinction and oblivion. Next month we will give a brief example of a successful "detection" under the Medicine Stamp Act.

(To be continued.)

Hints for the Sick-Room.

A Night-Watch.

The doctor is usually with the patient only for a short time—in ordinary cases once a day, in severe cases twice or thrice a day. But the nurse is in the sick-room almost the whole time, except when taking necessary rest. How important must it be, therefore, that she should understand the variations in the patient's condition, and relate them to the doctor when he comes. There are times when it is most necessary that the doctor should know how the medicine has acted; what has been the state of the pulse, the temperature, the skin; what food and sleep has been taken; and so on.

We therefore show here the record of a night-watch, during which it is pretty evident that the nurse had done her duty in attending to her charge. The invalid had just passed through a crisis, and was in an extremely weak condition, in some danger of collapse. Hence the abundant use of nourishing and stimulating food.

TIME.	DIET, ETC.	CONDITION.
NIGHT		
7.15	Beef tea—half teacupful	Temperature, 98.8
7.40	Chicken broth—teacup	
8.35	Hot milk—teacupful.	
9.0	Medicine—Brand's Ess., 1 teaspoonful	
9.45	Beef tea—1 teacup	
10.30	Hot milk—2 tablespoonfuls, with brandy, 2 teaspoonfuls	
11.0	Medicine—Brand's Ess., 1 teaspoonful	
11.30	Hot milk—teacupful	
11.45	Brand's Ess.—1 teaspoonful	
A.M.		
12.15	Hot milk—2 tablespoonfuls, Brandy, 2 teaspoonfuls	Pulse feeble (hot bottle to feet)
1.0	Chicken broth—small cupful	
1.45	Medicine—Brand's Ess., 1 teaspoonful	
2.10	Hot milk—teacupful	
2.35	Brand's Ess., 1 teaspoonful	Slept 45 minutes
3.30	Brandy, 2 teasp. in potass water, 2 tablesp.	
3.45	Beef tea—very little	Bowels acted
4.10	Chicken broth—teacupful	
4.30	Medicine	
5.0	Hot milk—2 tablespoonfuls, Brandy, 2 teaspoonfuls	Slept 30 minutes

In our next "Hints" we shall show how to take the temperature and describe the pulse.

BOOK FOR REVIEW.

"LESSONS FROM FIELDS AND LANES." By G. A. Grierson, F.L.S. (York: Wm. Bleasdale & Co.). —A charming companion for an afternoon in the country. The author speaks of plants (his subject is Botany) with the tenderness of a true lover of nature, and he makes the "common things that round us lie" brimful of interest. The little book does not profess to be a manual of botany, but merely to aid the student who possesses some elementary knowledge of the subject in recognising and describing the plants that abound in our English "fields and lanes."

NOVELTIES IN FOOD, MEDICINE, AND SANITATION.

Solid Fruit Juices.

MESSRS. DE CARLE & SON, Norwich, have sent us samples of these preparations in the form of powders, which for use require merely to be dissolved in water, and a pound of sugar added. By this simple means very delicious syrups are prepared, as we can now testify from agreeable experience.

Cork Mats for the Bath-Room.

ONE is very apt to take cold by stepping out of the bath on cold oil-cloth or tiles. This may be avoided by using a Cork Mat (Rankin's), which being porous and a non-conductor, allows one to stand while drying and dressing without having the heat and vital energy "conducted" out of the body.

American Braided Wire Pillows.

WHY india-rubber beds and pillows have held sway so long we cannot understand, as they are apt to retard the healthy dissipation of the emanations from the body, besides being very heating and uncomfortable. The above goods, samples of which have been sent to us for inspection, seem in every way adapted for comfort and health. They are soft, easy, springy, and perfectly light and porous, and being neatly covered, are suitable either for the sick-room, the drawing-room, or the open-air.

AN American doctor reports a case of a woman, seventy-one years of age, who sheds her bones—not a pleasant occupation either for herself or her friends. The doctor reports her as being "always cheerful, a very interesting fact as showing the power of the mind to adapt itself to extraordinary circumstances." We quite agree with the doctor that a mind which can adapt itself cheerfully to the shedding of bones must be capable of great things. So far the lady has only made her mark in the history of her country by this remarkable feat, and by presenting her bones to friends as souvenirs!

QUERIES AND COMMENTS.

INFECTION AND THE CAT.

The experience of "Medicus" is by no means singular. The *Lancet* some time ago reported a case where every other source of infection was eliminated but the cat. Unfortunately two members of the family died from diphtheria after poor pussy had succumbed. Infection through domestic animals is more common than one would imagine. We have known an epidemic of "sore eyes" go through a family, the cat being the first member to suffer; measles we have known to follow the transference from an infected house of a kitten in one case, a tame rabbit in another, although in neither case did the animal suffer. The parrot epidemic which recently occurred in Paris is another example, although the correspondent of the *Lancet* in that city, after severe examination, exonerates the 500 "pretty Polls," making them the victims rather than the original importers of the malady.

"A Busy Practitioner" thanks Mr. J. H. Allan, F.C.S., of Liverpool, for suggesting a ready way of testing and showing the effects of vitiated air in an office.

The Health Messenger.
LONDON: 24 WARWICK LANE, E.C.

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GOOD-BYE TO ALCHEMY.

SOME time ago we briefly discoursed on the career of the ancient alchymist in his search after the secret for turning the baser metals into gold. Like any ordinary commonplace modern, he was incited to his work partly by that splendid curiosity which has so often brought men to solve the riddles of nature, partly by the grosser but still excusable desire for personal gain. We then showed that the alchymist's work was by no means lost, for, although he did not attain the immediate object of his labour, he raised the status of the baser metals until they became of greater value to man than even the much-coveted gold.

The modern chemist is the lineal descendant of the ancient alchymist, and while he has abandoned the use of black magic and witchcraft, and replaced incantations by decantations, he still retains the spirit—if not the spirits—of his predecessor, and in his theories sums up all the knowledge of all the ages in regard to the properties of matter.

We shall shortly draw attention to the place and importance of the chemist in modern social life. This month and next, however, we will

content ourselves with organising a farewell procession of the Ancient Symbols of the Art. These will mostly be drawn from the collection of Dr. Lemery, a noted French chemist of the seventeenth century, but we shall be pleased to receive drawings from other sources, and correspondence from those interested.

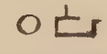
ANCIENT SYMBOLS.

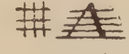
Steel, Iron, Mars ... ... 

The Loadstone ... ... 

Air ... ... 

Alembick ... ... 

Alom ... ... 

Amalgam ... ... 

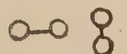
Antimony ... ... 

Aquarius... ... ... 

Silver, or the Moon ... ... 

Quicksilver, or Mercury ... 

Aries ... ... 

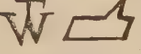
Arsenick ... ... 

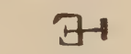
Bath ... ... 

Balneum Mariæ ... ... 

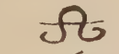
Balneum Vaporis ... ... 

Libra, or Ballance ... ... 

Borax ... ... 

Brick ... ... 

To Calcine ... ... 

Camphire ... ... 

Cancer ... ... 

Capricorn ... ... 

Gravelled Ashes ... ... 

Ashes ... ... 

To Digest ... ... 

To Distil ... ... 

Water ... ... 

Aqua Fortis ... ... 

Aqua Regalis ... ... 

Aqua Vitæ ... ... 

Spirit of Wine ... ... 

(To be continued.)

Points of Beauty.

THE POETRY OF MOTION—WALKING.

Perhaps some of our readers may think that the act of walking has only a very remote connection with health, but that only shows they are unacquainted with the laws of mechanics. An engine that works smoothly is not nearly so apt to break down as one which is given to thuds and jerks, nor do its parts wear out so soon—there is less friction. Not only so, but so great an authority as Mr. Herbert Spencer wrote an essay many years ago showing that there was almost an exact correspondence between grace of movement and economy of power. Seeing that walking is one of our most constant acts, daily and hourly, it seems therefore worth considering its hygiene and its grace.

Different nationalities and localities show very marked contrasts in their walk. The Egyptian peasant woman and the English cavalry officer are the most stately and graceful pedestrians we know of; the former because of her custom of carrying a jar of water upon her head, which gives her an erect and deliberate carriage; the latter—well, we scarcely know why, but probably his position when in the saddle predisposes him to uprightness without that stiffness which the infantry soldier is so prone to.

The ladies of Edinburgh have long been famed for their graceful motion, but we do not remember having seen a criticism of the typical native male inhabitant of that city. He projects the knee a little in advance of the body, plants his foot cautiously on the ground as if it were ice of one day's growth, and having ascertained that it is quite safe, draws his body forward to that point, and goes through the same operation with the other foot. Thus he does not walk, he toddles. One shoulder is almost invariably a little higher than the other, a result of the constant use of the pen for several generations. The Edinburgher is distinguished in this respect from the "Glasgowegian," who, along with the Manchester man, adopts a brisk

but stiff, monotonous, and ungraceful tramhorse style of locomotion, as if always in haste, life being too brief to compass all the plans he has in his head. The Cockney saunters listlessly along, as if life were a weariness to him, and he is always on the look-out for something to ease him of his *ennui*. Owing to the extreme loneliness of his life he frequently sings or talks to himself, the only subject on which he is fully alive being the avoidance of vehicles, upon which, however, his patience is amazing. If ever you see any one dart across a street in front of a bus, be sure he is from the country; your wary and patient Londoner waits until the procession has passed.

The first point in walking is to keep the head erect and firmly poised—it must not either wag or nod. The next is to keep the shoulders well up and the back straight. The third point is to allow the body to move easily upon the hips, and not to keep a stiff attitude, as if the back and the legs from the neck to the knee were one solid piece of cast-iron. A want of this hip-flexibility is the prime cause of ugly gait. Fourthly, never let the body rest entirely upon one foot or upon the heel only, but divide the weight gently from heel to toe as you pass along, the toe of the lingering foot giving a faint impetus to the body towards the next step. A slight springiness is thus attained, without which there can be no grace, no poetry of motion.

The stiff or jerky walker gives a slight shock to the nervous and cerebral system at every step, and as few people take less than five thousand a day, the hygiene of walking is a serious factor in one's life history.

A PHYSICIAN has observed near-sight is hereditary, but a larger percentage prevails among blondes than brunettes. His experience has taught him that the period of youth, when the eyes are used for study, is the age when most defective vision becomes apparent. This would bear out our contention that it is the extreme haste—for we all know the youthful habit of "skimming" books, more than the lack of exercise, to which we owe the deterioration of our vision.

BRAIN TROUBLES IN MODERN LIFE.

(*Continued.*)

By THOMAS LYLE, M.D., etc.; Hon. Pathologist to the Throat and Ear Hospital, Newcastle-on-Tyne; late Physician and Medical Superintendent Birmingham New Asylum, Rubery Hill.

BRAIN affections frequently have a premonitory stage, and appear in a very insidious manner. They are entirely overlooked by the patient; it may be by the friends, and sometimes by the family doctor, at first; or if perchance attention has been directed to certain symptoms, they very rarely have that amount of value set upon them that they are entitled to. The brain, although the centre of all nervous power, the most delicately constructed and the most important organ of the body, does not receive the amount of attention it should do; in fact, it is very much neglected. If we have any disorder of the stomach, liver, kidneys, or lungs, there is generally no delay in getting advice on these organs, and care is taken to have them set right; but how very different with the brain. We may have a persistent headache, sleepless nights, exaltation or depression of spirits, a slight change in the speech, inability to get through the usual business without a good deal of labour, and yet we don't think of coming for advice until these symptoms become more pronounced, and are often so far advanced that the patient is beyond cure. I think it well, therefore, to warn the public against the consequences of the neglect of these premonitory symptoms. To become familiar with the early symptoms of mental disease large experience is necessary, and it is in the early periods that the physician can be of most use in treating the case with advantage.

In a large proportion of the cases we meet with suffering from mental disease, the patient protests against his illness, says that he is quite well, and does not require any medical treatment; indeed, some of them insist upon demonstrating to you that they are better now than ever they were in their lives; and if you argue with them, or try to show them that they are

out of health, they will become irritable, angry, and it may be maniacal. This is well brought out in general paralysis of the insane and other brain affections. On the other hand, we have cases of insanity where the feeling of illness is out of proportion to the bodily state. Then we have a condition varying between the two extremes. I have had patients who considered the whole body to be dead, or became some one else or some inanimate substance. Some years ago I had a patient under my care, who for four years insisted upon saying that she was dead, and that the sound of her speech, when she did speak, was produced by a devil within her. For a considerable time she refused all food, and had to be fed with the stomach pump. After a considerable time she began to take food herself, as she said, more to please me than anything else, but under protest, as she said it was no use to feed a dead woman. Eventually she got quite well, and became a very useful member of society.

Home Treatment.

I feel quite certain that the treatment at home of mental diseases has not received that attention to which it is entitled. There are certain cases that must be sent to an asylum at once, especially those where there are suicidal and homicidal tendencies; but there are a great many I know can be treated in a private house or at home. Private treatment is more expensive, as skilled attendants may be required; but with some people, especially for the class this treatment is recommended, expense is of no consideration compared with the disadvantages asylum treatment might have on the future prospects of the patient, especially in professional men and young unmarried ladies, who would feel that the fact of their having been in an asylum was a degradation to them, although they are in no way responsible for it; but if they have exhibited some mental aberration, and been treated at home or at some friend's house, how different! There still continues a popular prejudice against asylums, and against those confined in them, although there is no reason for such nowadays.

The reason why the friends do not call in their physician at the earliest moment is that they fear he may recommend the removal of their dear one to some asylum. Now, in the very early stages of mental disease it is very curable, and it is then the physician should make an effort to scatter the cloud that is gathering over the brain, and ward off the threatened attack. If this home treatment can be carried out successfully, the patient recovering without having to be sent to an asylum, how delighted the friends will be; and you can imagine that the feelings of the patient will be most grateful.

IMPURITIES IN WATER.

Owing to reasons over which they have no control, and quite apart from temperance principles, human beings are largely composed of water, even to the extent of three-fifths of their weight. And as this ingredient in their bodies, when laden with the impurities which it has washed from the blood and tissues, passes rapidly away by the action of the skin and the kidneys, it is not too much to say that at least nine-tenths of the matter we daily swallow is water. We do not mean that so much is taken in its simple form, or even compounded into soup, tea, or whisky-toddy; but, without exception, every description of food contains or must be mixed with it before being swallowed. Many vegetables contain over ninety per cent., and even dry bread has its share.

Let it not be supposed that water is necessarily pure and fit for drinking as it issues from its natural sources. We shall presently see that the mineral beds through which it passes may add to it substances which, either as to quality or quantity, are injurious to the human body.

Even so early in its history as when it dwelt in a thunder-cloud, water may have received what might be termed an *evil suggestion*. The electric discharges which it then experienced communicated to it, according to the most recent investigations, traces of nitric or nitrous acids, nitrate or nitrite of ammonium, which although in themselves quite harmless in so small a quantity, yet render the water capable of taking into solution various impurities which it meets with on its way to the table.

Now, the contaminations of water are of several descriptions. The first of these is our old and comparatively honest acquaintance "dirt," by which is meant matter not exactly dissolved but simply held in suspension. It may consist

of finely divided clay, or of the colouring material or the actual pulp of vegetable or animal substances which it has taken up in its course; or of the more visible worms, flies, and eels which the filtering beds of some watering companies permit to pass without question. A graver possibility, and that, unfortunately, as frequent as, though less visible than the above, is sewage contamination, which, according to the present evidence on the point, is apparently capable of creating *de novo*, typhoid fever and the severe forms of diarrhœa.

The second class of impurities are those held in solution, and grouped as chemical or inorganic salts. A moderate amount of some of these is not undesirable and cannot be considered as impurity, seeing that they are constituents of the blood or bones. Indeed, all spring and river waters contain lime, magnesia, and frequently other minerals, in the form of carbonate, chloride, sulphate, etc., and it is only where an excess of these is present, in other words, when the water is very "hard," that it is unsuitable or at least undesirable for drinking or cooking. There are other mineral impurities, however, which cannot be so lightly spoken of. We have already mentioned the trace of nitrates or nitrites which the water frequently contracts early in its career. This causes it to exercise a powerful solvent influence upon lead pipes or cisterns through which it may pass, and it thus becomes highly dangerous—indeed poisonous. All waters are not liable to this action, immunity being due, as was supposed, to the counteracting effects of the lime and silica they contain. For some years it has been held that soft waters, or those containing but little lime, magnesia, and silica, are the most likely to act upon lead, but the recent investigations of Dr. Garrett give evidence that the presence or absence of these mineral constituents in water does not determine its action upon lead so much as their condition as to acidity or alkalinity. Nearly all waters having a solvent tendency on lead have an acid reaction—probably owing to traces of humic or nitric acid. It is also proved that if a dangerous water be rendered alkaline, either by alkaline carbonate of lime, soda, or ammonia, its action upon lead is immediately arrested. Even after being taken into solution, the lead can be precipitated by adding a suitable reagent, or by passing it through a filter containing a reliable precipitant. It is already a year or two ago since Dr. Hatfield Walker, writing in the *Sanitary Record*, pointed out that this virtue was possessed by Mawson's Filter, and perhaps others may have the same.

The next class of impurities comprises the whole range of modern bacteriological horrors. Our forefathers either drank something different from water and survived, or perchance they drank water with its countless millions of bacteria and bacilli and peacefully succumbed, in blissful ignorance of their mortal enemies. Here are a few of the terrors that surround the drinking of unpurified water, all of them being due to germs which are too small to be detected by the naked eye: diarrhœa, dysentery, typhoid fever, malarial fevers (some of these, however, are propagated by moist air), cholera, yellow fever, certain kinds of boils, etc. In a recent number of the *Lancet*, Surgeon-General A.C.C. de Renzy, C.B., traced, with mathematical precision, a recurrent epidemic of cholera amongst Assam coolies to the use of water from an impure source. Scarcely a week passes without the same demonstration taking place in England with regard to outbreaks of typhoid fever.

Besides these invisible and intangible enemies which swarm in the cup of cold water, there are the eggs of intestinal worms, which most frequently find their way into the body by that medium. This is especially the case with the *Ascaris Lumbricoides*, or round worm, which is much more prevalent in country places than in towns, owing, as is supposed, to the want of provision for filtering water.

These are the main impurities of water, and are sufficient, without our waxing eloquent on minor points, to convince the sceptical that water for drinking needs to be filtered if it is to be safe. Even for cooking it should not be passed without consideration. Hard water is not suitable for making tea in perfection, and the pinch of soda sometimes added to "draw" its infusion in such water destroys the aroma.

In a well-known watering place where the water contains much lime, we know an old lady who maintains a high reputation for her afternoon tea by using for its preparation distilled water obtained from the chemist. She is careful enough to boil the water in a small kettle kept for that purpose alone, as vessels in which the ordinary water is heated have a calcareous crust, and this might be partly dissolved by the unusual softness of the distilled water. Potatoes boiled in impure water have usually a dark colour, and even bread may be several shades less white from a corresponding cause.

So much for the impurities—but the question here arises, how are they to be removed? Owing to the great diversity in their nature, it is almost impossible to find one means which will absolutely take them all away. A filter which removes an excess of silica or lime may allow dangerous germs to pass. Or another,

such as the Chamberlain-Pasteur Filter, may remove the germs, yet the water may remain dangerous or unsafe from other causes. Analysis seems to prove that the ordinary solid block filters are the least efficacious, but the sponge filters, where the real active material is cemented down out of sight and reach, are the most dangerous, on account of their faculty for harbouring without question the accumulated impurities of years. It is only reasonable to suppose that the better a filter does its work the sooner it needs to be cleaned. Mawson's Filter, for example, which when freshly charged "renders hard water as soft as rain," gradually loses this power as the pores of the material become saturated with lime and magnesia. The same filter, to judge by analysis and bacterial examination, removes the albuminoid ammonia, which is one of the surest signs of sewage contamination, and also keeps back germs of infectious disease. But common sense suggests that if it does all this the filtering material would require to be cleaned or renewed from time to time. Provision is made for this in having every part of the filter accessible to sight and touch, so that, when necessary, and in the simplest manner, a new charge can be placed in position.

There was a time when our forefathers dreamed not of the necessity for cleanliness, but a change has come over our habits, and now a nation's civilisation is measured by the quantity of soap it consumes. So with filtration. We drink more water, perhaps, than our ancestors, and it contains impurities which are the result of modern conditions of society, such as a dense population, etc. We therefore require to be educated, not only to using a filter, but to spending a trifling amount of time and pence in keeping it in working order.*

* Reprinted from the *Provision Trades' Gazette*, 115 Fleet Street, London.

DOMESTIC AND PERSONAL HYGIENE.

Suppers.

WHY that parched mouth and nasty taste in the morning? Suppers! The middle classes take a "square" tea, and sup while yet the stomach is unemptied. One of these meals should be very light indeed.

And Breakfasts.

THE reason why many healthy persons can take little or no breakfast is twofold. First, late or heavy supper; by reducing this you will gain more refreshing sleep, and increase your appetite for breakfast. Second, you come to the table before your stomach is awake. Fresh air is to the stomach what light is to the eyes—an invitation, an awakener, a stimulant. Ten minutes, therefore, in fresh air, before breakfast.

Nightcaps.

FEW things are unmitigated evils. Thus jerry-building, amongst other advantages, gives the inhabitants of our towns abundant ventilation in their narrow apartments, from windows, doors, skirting-boards, floors, and roofs, when these have had time to shrink to their uttermost. It ia also said to be responsible for the revival of that ancient and picturesque garment, the nightcap, which is now commonly worn to prevent the hair being blown from the head during the stilly night.

And "Nightcaps."

ANOTHER variety of nightcap is taken internally in the liquid state. The best form is the hydropathic nightcap, which consists of a glass of hot water; for weakly persons, milk may be supped as hot as can be borne. Delacre's cocoa is the next most wholesome form. Beef tea is also both pleasant and invigorating, but add no pepper, as that, also tea and coffee, will stimulate the heart and brain so as to banish sleep. The alcoholic "nightcap" is not to be recommended; its lightest results are headache and want of appetite in the morning.

Excoriated Nipples.

DR. FRANK VAN ALLEN, of New York, speaks highly of the use of the white of egg as a treatment for the sore nipples of nursing women. He paints the nipples several times a day just after nursing with the white of egg, and this soothing albuminous covering forms a delicate film over the abraded nipple, and the surface is healed in a few hours except in severe cases.

A Hint on Infant Feeding.

DR. EUSTACE SMITH'S method of diluting milk with barley-water does not appear to be as well known as it deserves. The barley-water is

made by steeping two tablespoonfuls of pearl barley in a quart of water for seven hours, then pouring off the liquor and bringing to the boil. This makes an admirable diluent for condensed milk, preventing curdling of the milk, and diminishing or curing vomiting, while it also keeps the bowels regular, and, unlike lime-water, does not constipate—rather the opposite.

House Plumbing.

In building a residence, one of the essential things to look after is to get it healthful. It is built for the purpose of living in, and should be made healthful if not beautiful. One of the most important features in this regard is the plumbing. If it be put in a defective condition, the house may be well suspected of being unhealthful. If it be placed in the house properly, it may be expected with a reasonable certainty that it will be healthful. There are these two conditions to be expected with regard to plumbing. If you want a dwelling in which you can have faith as to its healthfulness, secure good plumbing. You will find it cheaper in the end, and you will not have the annoyance of having it repaired at short intervals.—*Sanitary Record.*

Sanitation up to Date.

Bell traps should be exchanged for syphon gullies, sink wastes disconnected over yard gullies, soil pipes inside the house taken outside and ventilated, rain-water pipes disconnected from the drain, and closet cisterns from the domestic service; conical hoppers replaced by improved forms, and the closets themselves, whenever possible, removed outside the house; syphon water-waste prevention substituted for cheaper pattern constantly out of order, and portable dust-bins for the common brick pit.

Some of these improvements must be carried out gradually, but he maintained that bell traps and sink wasters in direct communication with the drain should be deemed "nuisances, and dangerous to health."

The ideal system which he almost always required as a condition of certifying houses of the best class—*i.e.*, disconnection of the soil-pipe—a separate ventilative shaft and inspection chamber at each end of the drain was out of the question in the majority of those occupied by the middle and lower classes, but an almost equal security against the entrance of sewer air was to be attained by making the soil-pipe the upcast ventilator, and interposing between the house and the sewer a stoneware interceptor, and beyond it a syphon.—*Dr. Willoughby, Address to Soc. Med. Off. of Health.*

Competitive Dietaries.

The great Roman general, Corbulo, we are informed by Tacitus, was in his Armenian campaign reduced to extremities, his army having suffered, not indeed from losses in battle, but from being driven to satisfy its hunger from the flesh of sheep. To the average Briton into whose dietetic cult the mutton-chop enters so largely, this announcement must seem inexplicable; so much so that he might be excused for thinking lightly of the stamina or pluck of his forefathers who allowed themselves to be conquered by soldiery for whose stomachs the flesh of sheep was too strong. The fact is, however, as Tacitus has stated it; and we know from other authorities that animal food as a constant element in the Roman soldier's fare was found hurtful to his health and efficiency. Cæsar, in his Gallic war, tells the same story: "Ut complures dies milites frumento caruerint et pecore extremam famem sustentarent" (how for several days his troops did without corn-meal and sustained the extreme of hunger on mutton). Corn-meal was the grand necessary of life to those legionaries who, led by Cæsar, subdued the world, and who counted themselves starved, and were apt to mutiny if reduced to the "famine fare" of animal food. Even British troops have been known to suffer from an exclusive meat diet, as indeed we found to our cost in the Zulu campaign of 1879; while the preference of the Roman soldiery for vegetable food has its justification in the experience of the Russian army, and still more of the German one in 1870, which carried that memorable campaign to its triumphant close on the *Erbswurst* (pea-sausage flavoured with a little bacon). Without for a moment lending countenance to the vegetarian who would cut off butcher's meat from human consumption, we may concede to him that an animal diet, unbalanced by a due proportion of the "kindly fruits of the earth," is distinctly prejudicial to

(*Continued on page* 160.)

FAVOURITE PRESCRIPTIONS.

KEPLER EXTRACT OF MALT.

THIS preparation contains all the essential principles of Barley Malt in an agreeable and concentrated form. It is especially rich in diastase—the digestive principle which converts starch into dextrines and maltose. Opinions vary as to whether the immense utility of Extract of Malt depends more upon the diastase than the nutritive principles contained in it. In many debilitated conditions, however, it is generally conceded that the nutritive principles of dextrines, maltose, and natural phosphates are absolutely necessary. A tablespoonful of the Malt Extract under such circumstances is equivalent to a large percentage of farinaceous foods. Undoubtedly diastase, however, is very valuable in converting starchy material into soluble conditions suitable for ready assimilation.

Kepler Extract of Malt is an excellent sweetening agent for gruels, rice puddings, etc. It is an invaluable adjunct to peptonised milk and to foods for infants. The Malt Extract prevents the milk curdling in large clots, and therefore assists materially in the digestion of the food.

The Kepler Extract of Malt is supplied in ¾ lb. and 1½ lb. bottles.

VERDICT.

THE LANCET reports:—"The Kepler Extract of Malt is the best."

The MEDICAL TIMES AND GAZETTE: "By far the best."

The MEDICAL PRESS: "Delicious to the taste."

THE KEPLER ESSENCE OF MALT

Contains a large amount of Diastase and natural mineral phosphates, and a considerable amount of tissue-forming substances. *The immense superiority of this preparation over ale and stout* is at once apparent. This Essence is therefore an ideal aid to digestion and nutrient agent. A wine-glassful of the Kepler Essence of Malt contains more elements of nutrition than a pint of the finest alimental stout. The flavour of the ESSENCE OF MALT is delicious. It is admirable as a table beverage when diluted with aërated water, and as an addition to milk for infant and invalid dieting; for it sweetens it and facilitates its prompt and perfect digestion. The Essence may be taken in coffee, gruel, aërated or plain water, wine, or mixed with any farinaceous food, and prevents the starch in such food, and large clots of curd in milk diet, overtaxing the power of the digestive functions. Supplied in champagne pints.

KEPLER SOLUTION OF COD LIVER OIL.

This is, according to the BRITISH MED. JOURNAL, "an ideal form for the administration of fat." It is a well-known fact that when fatty material is ingested *en masse* it to a very large extent escapes emulsification during its passage through the alimentary canal. If, on the other hand, it is mixed intimately with other foods, the disintegration process has already been accomplished, and the fat is readily acted upon by the secretion of the pancreas succus entericus and the bile. Cod Liver Oil is no exception to this rule, and according to recent investigations a very large proportion of the Oil taken by a selected number of patients was voided unchanged in the fæces, whereas oil given in a condition similar to the Kepler Solution of Cod Liver Oil was perfectly absorbed, and merely a trace of fat only was discovered unchanged. The Kepler Solution contains a very large percentage of Cod Liver Oil, the remaining part of it consisting of a rich and nutritious Extract of Malt. Everything considered, this preparation is one of the most perfect foods and resuscitating agents it is possible to prepare. THE LANCET reports: "It has hardly any of the taste of the Oil. Many can take it easily who cannot take the Oil." The BRIT. MED. JOUR. reports: "The taste of the Oil is agreeably disguised, its nutritive qualities are greatly increased, and it is rendered easy of digestion." Again, THE LANCET reports: "It is the best known and most largely used." The MED. PRESS AND CIRCULAR: "The most palatable and easily digested."

The Kepler Solution of Cod Liver Oil is supplied in ¾ lb. and 1½ lb. Bottles.

BURROUGHS, WELLCOME, & CO., SNOW HILL BUILDINGS, LONDON, E.C.

the consumer, particularly to the resident in cities, whose opportunities of open-air exercise are few and far between. We are still in want of such a series of experiments on the nutrient and sustaining values of food, vegetable and animal, as the late Professor Parkes, of Netley, instituted with such conclusive results on the various kinds of drink, from water up to spirits. Till statistics of equal comprehensiveness and accuracy are furnished us we must be content to remain imperfectly informed as to the competing claims of the two great factors of solid alimentation. In the half light we possess on the subject we must expect partisanship on either side—the vegetarian insisting on the exclusive virtues of his special diet, and his carnivorous antagonist appealing to physiology and personal experience in favour of butcher's meat. "Competitive dietaries" are thus forced on a bewildered public, and the physician is often called in to repair the damage done to themselves by those who, on either side, have had too much "the courage of their convictions." That men and women should be trained to become "the intelligent custodians of their own health," as Sir James Coxe so well expressed it, must always remain a pious opinion till science and experience have authoritatively pronounced themselves on the due balance—not antagonism—between the animal and vegetable factors of daily food.—*Lancet.*

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

SUPERFLUOUS.—The hair apparent on the crown of the heir-apparent.

"AGAINST all kinds of witchcraft—a large beetle; cut off his head and wings, boil him, put him in oil, and apply to the part. Then cook his head and wings, put them in serpent's fat, warm it, let the patient drink it."—*Ancient Egyptian Prescription.*

IN America an ordinary drunkard, who has not immortalised himself by having *delirium tremens*, is called a "plain drunk;" if he is brought into hospital frequently as an inebriate, he is dignified with the name of "rounder."

MR. PURSEY: "Yes, you can marry my daughter if you like; but I tell you candidly she won't have a penny until I die. Are you still of the same mind?"

Young Doctor: "Will you permit me to medically examine you, sir?"

"AHA! I catch you buying a porous plaster, do I? I thought your devotion to fresh-air theories would bring you to this!" "It ain't the plaster that does me good," answered the crank; "it is the ventilation obtained through the holes."

IT is stated that since last October, in addition to the ordinary cremation in France, more than 4614 bodies have been sent from the hospitals to be cremated.

A CIGAR contains acetic, formic, butyric, valeric, and proprionic acids, prussic acid, creosote, carbolic acid, ammonia, sulphuretted hydrogen, pyridine, viridine, picoline, and rubidine, to say nothing of cabagine and burdockic acid. That's why you can't get a good one for less than twopence.

THE word "viscera" was the cause of great chagrin to the late Timothy Trim. The popular chronicler of the *Petit Journal*, having cause to narrate the *post mortem* appearances in the case of the great Napoleon, allowed a slip of the following kind. The doctors charged with the autopsy had left the Emperor's heart on a table; but when they returned the following morning they could no longer find this august *vertebra!* Timothy had confused *vertebra* with *viscera.*

THE STORE SYSTEM.—A firm at Epsom, whose talents must be curiously diversified, advertise as under:—

They sell genuine drugs, patent medicines, and sundry articles at London store prices for cash.

They sell best coals and coke at London store prices for cash.

They sell superior mineral waters at manufacturers' prices—50 per cent. less than London store prices.

They keep an experienced staff of workmen for shoeing and smiths' work in general.

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THE HEALTH MESSENGER

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The following Wholesale Newsagents keep *The Health Messenger* in stock, and will supply it to local dealers. Agents will shortly be appointed abroad:—

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Newcastle-on-Tyne. Ross, C. C., The Side. Scott, G. W., 30½ Westmoreland Street.
Oldham..... Pollard, G., 13 Union Street.

CERTIFICATE OF CIRCULATION

I certify that since January the issue of *The Health Messenger* has each month **exceeded** the contract number of Ten Thousand **(10,000)** per Month, and that the issue for May consists of **17,500 copies.**

For Walter Scott, Limited,
D. GORDON, Manager.

May 12th, 1892.

From Walter Scott, Ltd., Publisher,
24 Warwick Lane, London, E.C.,
and Newcastle-on-Tyne.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

The epidemic of small-pox still continues in London, also at Halifax, and to a less extent in several other English towns.

* * *

Cholera is more than usually prevalent in the East. Both from India and Persia comes news that should make us look to our sanitation, in case the scourge should overstep its boundaries and visit Europe.

* * *

The decision to which we drew attention last month respecting "Patent" Medicines which contain poison is creating a scare amongst the unqualified sellers, stores, etc. Those who have hitherto sold these dangerous mysteries at a nominal profit, in order to induce huge profits out of their own manufactures, will henceforward require to confine their operations to articles in which they are qualified to deal.

* * *

Believers in "specifics" and miraculous cures emanating from unskilled and unqualified persons ought to receive a rude shock after the disclosures about "vitaline." This interesting cure for all diseases and rejuvenator for the aged had a "run" in Russia amongst the nobility which has scarcely been equalled in modern times, even by the gilt-charioted and loud-trumpeted "Sequah."

* * *

The doctors were in despair. Disease, old age, and weakness were to be driven from the earth by this "wonderful discovery" which a "Chinese savant, living amongst a primitive people in Trans-Caspian territory, revealed" to one Gatchkowsky, an engineer. When, however, the Prefect of St. Petersburg tried it, and died from it, the "discoverer" confessed that his "vitaline" was merely a mixture of glycerine and borax. So much for credulity and the unscientific mind.

One of the most interesting events of the month is announced from Paris, where M. Pasteur, led by observation of its apparently beneficial effects, has been testing his anti-rabic injections upon epileptic patients. Although no one for a moment connects epilepsy with rabies, it is well known that the paroxysms of each are accompanied with violent excitation of the "medulla." Whatever be the rationale of the treatment, M. Pasteur announces an entire cessation of the fits in several epileptic patients treated with the mild virus.

* * *

A generalisation from this is too good to be true; but it is still under test. If verified and established, such a discovery would raise M. Pasteur to still greater eminence, and would give the world still greater reason to thank him. Where one person is attacked with rabies, a hundred suffer the life-long anguish of epilepsy.

* * *

Vital statistics last week of May :—

Cities and Boroughs.	Population.	Births.	Deaths.	Death Rate.
33 Towns.....	**10,188,449**	**6444**	**3797**	**19·4**
London	4,263,294	2508	1534	18·8
West Ham	217,113	177	69	16·6
Croydon	106,152	56	28	13·8
Brighton	116,424	55	29	13·0
Portsmouth	163,667	84	42	13·4
Plymouth	85,610	41	28	17·1
Bristol	223,592	135	90	21·0
Cardiff	136,181	98	47	18·0
Swansea	92,344	63	34	19·2
Wolverh'ton.....	83,519	43	41	25·6
Birmingham.....	483,526	336	220	23·7
Norwich.....	102,736	54	32	16·2
Leicester.....	180,066	121	77	22·3
Nottingham	215,395	125	61	14·8
Derby.....	95,908	61	16	8·7
Birkenhead.....	101,264	62	31	16·0
Liverpool	513,790	366	244	24·8
Bolton.....	116,261	85	48	21·5
Manchester.....	510,998	366	247	25·2
Salford	201,058	120	83	21·5
Oldham	134,221	73	53	20·6
Burnley	90,589	65	34	19·6
Blackburn	122,238	97	56	23·9
Preston	109,038	73	49	23·4
Huddersfield.....	96,599	40	28	15·1
Halifax	84,097	48	37	22·9
Bradford	219,262	132	72	17·1
Leeds	375,540	263	112	15·6
Sheffield.....	329,585	259	116	18·4
Hull	204,750	145	73	18·6
Sunderland.....	132,839	114	70	27·5
Gateshead	88,588	55	27	15·9
Newcastle	192,205	124	69	18·7

* * *

Again there is a serious epidemic of lead poisoning through contamination of the public water supply, this time in the neighbourhood of Bradford. A meeting of the local medical officers of health has been held to consider the measures to be taken. Dr. Pitney Aston described the insidious and widespread effects of the poison even where its presence was not distinctly recognised, and urged that until the public supply was altered every family should use a reliable filter. He had himself used one of Mawson's Filters for a long time with perfect confidence, as he had tested and found it to remove every trace of lead.

* * *

Further experiment seems to prove that for every kind of snake-bite, strychnia is a specific. Mr. R. P. Banerjie, a medical officer in Rajpootana, describes in the *Lancet* the treatment of a number of cases, all of which recovered, although some were in severe collapse. Every up-country expedition ought in future to be provided with instructions and supply for the administration of strychnia.

WORK, REST, AND PLAY.

By the Editor.

Nature in her annual course points out the great lesson of activity and repose. Spring with her buds, summer's flowery splendour, autumn with ripe fruits—these are succeeded by winter's reign, when Dame Nature takes her rest. The growing period is in temperate climes confined to about five months of the year, while in the case of many small plants a few weeks only comprise the beginning and the end. Taking the shorter seasons of night and day, we have recently drawn attention to experiments with electric light, which prove that you cannot rob a plant of its nightly repose without taking away from its main life purposes—its fruit-bearing powers.

This is one of the most impressive lessons for modern life. We do not join in the jeremiads against express trains, telegraphs, and the other appliances which, to use a common saying, "annihilate time and space;" but in proportion to the speed of civilised life does the necessity increase for periods of intermission—of rest and play. Work we must, and that right heartily, if our place in the world is worth considering; but it must be within certain limits of time and strength, and must be succeeded by corresponding "spells" of repose and change.

More than half the misery of life arises from the want of a proper proportion between work and repose. The nervous irritability and overstrain, on the one hand, of those who endeavour to bring forth fruit night and day, all the year

round; and the peevish hypochrondria or the vicious selfishness, on the other hand, of those who have not work enough to take the yawning dulness out of their lives—both of these conditions arise from the want of proportion. One man works so long and so hard that he cannot rest; another rests so much that he loses the power of working. Coming alternately, like night and day, and in due proportion, rest stimulates to work, and work sweetens rest.

The intensity of the work should determine the length of the "spells" of work and rest. Bodily labour varies as well as mental, and both may be intense or diffused, but the intenser kind should never be continued for more than three hours without rest, and then, of course, the length of the rest must be determined by the exhaustive waste, nervous or muscular, which has taken place. The ploughman slowly plods his way from early morn till dewy eve, and every day resumes his work refreshed by the night's repose. But the actor taking a leading part, although only occupied during from two to three hours, and that not incessantly, may be completely prostrated by his brief exertions, and requires more sleep and more rest than the ploughman who works twelve hours a day. So it is through all the shades of life, from the cart-horse speed to the race-horse speed. All that is required is that rest shall be taken in proportion to the exhaustion, not in proportion to the mere time spent in labour.

With regard to play we have said nothing yet. In writing in this paper on Preventive Medicine two months ago, Dr. Blair pointed out that hard work does not always mean healthy exercise or preclude the necessity for it. One set of muscles only may be exhausted by the work, but a necessary mode of restoring them is to exercise other muscles while these are allowed to rest. So with the mind and the nervous system. Close occupation with business and consequent nervous exhaustion only renders more necessary an entire change of subject—not merely a cessation of work. Other nerves require to be brought into "play" while the tension of the former may be relaxed. Thus a game at tennis, a concert, a romp with the children, a social evening with friends, "re creates" the mind far more than several hours' semi-conscious dozing over the fire or on a sofa. Do not forget what we have already said about rest, which should immediately follow any great exertion; but the element of play, the recreative function, should not be considered insignificant in proportioning the activities of life.

THE FEEDING OF INFANTS.

By Edward F. Pratt, L.R.C.P., Lond.

To thoroughly understand the science and art of feeding infants is one of the most important lessons for a mother to learn. It is so for two chief reasons:—

Firstly. If an infant's food be properly regulated and administered in a judicious manner, it will grow up strong and healthy, and will be well able to digest that stronger food which will gradually fall to its lot. There is no doubt that a great many cases of "*weak stomach*" in young children have had their origin in injudicious feeding when they were babies.

Secondly. The well-known maxim, "*Mens sana in corpore sano*," cannot be more fitly applied than in the present instance. Of course every one knows that when translated this saying means that, to have a healthy and vigorous mind, one must of necessity have a healthy body. Now then, how is this happy state of affairs to be arrived at? In the youth and adult, by sports and all out-door exercises, cold baths, and, above all, *judicious feeding*. Now, granting that this latter item is of so much importance to adults, how much more so must it be to little beings whose organism is so much more delicate than that of their elders, who are not in a condition to indulge in sports and pastimes, and whose only exercise consists in being carried about by a nurse, or wheeled in a perambulator!

It is my firm belief that if mothers and nurses would pay more attention to the diet of their babies, and not feed them, as many do, in a hap-hazard sort of way, a great majority of the sickly and mentally deficient children we now see would be strong and robust.

To go at all thoroughly into the subject, let us divide the methods of feeding into three, viz :—

(1.) Naturally, or by the breast.
(2.) By means of wet-nurses.
(3.) By artificial means.

Natural Feeding.

This method—for the mother's sake, for certain reasons, and for the child's sake, for obvious reasons—is by far the best to employ in all cases where the mother is healthy. One reason is that, as the breast empties it collapses. Now, a healthy baby will gradually empty a breast in a quarter of an hour, and at the end of that time the breast will collapse, and the child cease to suck; but if instead of the breast we have a feeding-bottle, it is easily understood that the bottle cannot collapse, and so, after it is emptied, the baby will go on sucking and sucking in the vain endeavour to get more food, and as a result of its disappointment it will become first of all cross, and finally exhausted, which result is happily avoided when the breast is used.

The most important point in feeding (but more especially in natural feeding), as I shall presently show, is to determine the intervals which should be allowed to elapse, and in this one particular artificial has the advantage over natural feeding, for in the former method the food can be prepared at any moment, and so a long or short interval will make no difference in its quality. In the latter case, however, a very great difference is found ; for irregularity in nursing, too frequent nursing, and too prolonged intervals, are each and all bad for the milk, and consequently for the child. Too frequent nursing will lessen the water and increase the solid constituents of the milk, while if too prolonged intervals are allowed to elapse, quite the contrary effect is produced.

Now, two essential elements must be borne in mind in infant-feeding—viz., *digestion* and *nutrition*. In too frequent nursing we have seen that the milk becomes concentrated, and so is *too nutritious and very indigestible*. Again, in cases where the intervals of nursing are too prolonged, the watery constituents are increased at the expense of the solids, and the milk is consequently *easily digestible*, but is also *non-nutritious*. It will then be seen that, to use the words of a very able writer on the subject, "It is the equilibrium of these two elements—viz., digestion and nutrition, which makes up a perfect infantile development."

In order to arrive at this desirable state of affairs we must first establish regular feeding times, and must by no means depart from them. It is necessary to know that the younger the child the more rapid is its proportionate growth, and consequently the greater the need for short intervals. In my opinion, and in that of most medical men, two hours is the interval which should elapse for the first two weeks. From the end of that time to the end of the second month every two and a half hours, and from the end of the second month to the end of the twelfth month every three hours.

Now, these intervals should be strictly adhered to, for it is a very grave mistake to give the baby the breast every time it cries, for then the errors of too frequent feeding show themselves ; for I have already pointed out that if a baby be fed too frequently the milk becomes too nutritious and very indigestible. Besides this, the child's stomach becomes overloaded, and as a natural sequence vomiting ensues. Time after time do mothers take their babies to their doctor with the complaint that, "Baby is not at all well ; he can't keep anything on his stomach ; he is so restless, too. Don't you think it is his teeth, doctor?" Poor teeth! for what a great deal of suffering are you accountable! The first question I always ask in such a case is, "How often do you give baby the breast?" The answer invariably being, "Oh! whenever he cries, of course!" I at once point out the folly of such a practice, telling the patient that no medicine is necessary, and when next I see that child it is more than

probable that the vomiting and restlessness have both disappeared, and that he is flourishing well.

(*To be continued*).

ABOUT PATENT MEDICINES.

By the Editor.

(*Continued*).

The conditions under which "detections" are made may be readily gathered from the following letter, which was written at the tearful request of an aged shopkeeper, who had been visited by one of the officers or informers of the Inland Revenue department. From the manner in which the visitations are made, and indeed from the nature of the case, it is evident that the object is not to maintain the majesty of the law, but to extract a little hard-earned cash for the imperial treasury. If there be grounds for the common report that officers or informers receive part of the fines or proceeds, upon which subject a question was quite recently asked in the House of Commons, then it appears to us there is a state of things in our public service which calls for serious question :—

Newcastle-on-Tyne,
February 8th, 1889.

The Secretary, Inland Revenue, Somerset House, London, W.C.

Dear Sir,—Mrs. J—— P——, a widow woman, 60 or 70 years of age, who earns a livelihood in selling unconsidered trifles in a working-class neighbourhood of Newcastle, has called upon me with a notice which she has received from you, asking her for any explanation she may wish to offer as to why the Board should not proceed against her for the recovery of the penalty of £10 incurred under the Act 52, George III., cap. 150, sec. 2; and for the further penalty of £20, for selling a penny roll of Dale's Plaster.

As she describes herself as "not being a scholar," and therefore instructs me to answer your notice, I will endeavour to give you the explanation you desire.

Dale's Plaster is an article which has been used in every Northumbrian and Durham household from time immemorial. The firm of chemists who are makers of the piece your Inland Revenue officer detected Mrs. P—— in selling have been in existence for a hundred years (save one), and have sold it retail during the greater part of that period for the sum of 1d. a piece. They have also sold it "to sell again," and almost every little shopkeeper in every pit village, as well as numerous small traders in the towns of Northumberland and Durham, vend it daily to their customers.

This being so, and Mrs. P—— not having read Act 52, George III., cap. 150, sec. 2, she is not yet aware why she should be called upon to pay the penalty of £10, and a further penalty of £20.

Being personally aware, however, that there is a Patent Medicine Act for the sole purpose of raising revenue, and not for in any way guaranteeing the purity or efficacy of medicines, or insuring the public against poisons (which enter into a great number of these medicines), I am led to understand you hold the opinion that Dale's Plaster, price 1d., should bear a Government duty stamp of 1½d., and that in addition, any person selling the same should hold a licence, for which they must pay an annual sum.

Now several reasons present themselves why this article should not be subjected to a stamp duty, nor the sale in any way be restricted.

(1.) Dale's Plaster is a popular article used by hundreds of thousands of the working classes, and to tax it to the extent of 150 per cent. of its value appears to me a monstrous injustice to them.

(2.) Seeing that hundreds of small shopkeepers have had a regular sale for it during the whole course of their commercial existence, to tax them with a licence which absorbs all their profit will be a shameful injustice. Indeed, were they able and willing to pay the licence, the exorbitant tax of 1½d. upon the value of a 1d. would utterly destroy the sale.

(3.) Dale's Plaster is not advertised, unlike the articles on which the Patent Medicine Act was intended to operate.

(4.) It is not recommended for the cure of any disorder, the people knowing best what use to put it to. Indeed, as far as the label shows, it might as easily be a plaster to put upon the wall, or for mending boots, as for application to the skin.

I have now to ask why the Inland Revenue officer who "detected" Mrs. P—— did not first proceed against the makers of the plaster, whose address was on the wrapper, and whose business premises are only about half a mile from her shop? I have further to ask you to inform me whether it is the case that the Inland Revenue officer (male or female) who makes a successful "detection," obtains as his reward a substantial proportion of the fines and penalties; or, as is more frequently the case, of the "hush money" extracted from the helpless shopkeepers, in consideration of proceedings being stayed?

I also beg to inquire whether any return has been issued showing the amount of such "hush money" received by the department during the past two years, since the inventive brain of some Inland Revenue officer conceived the happy and lucrative idea that the Patent Medicine Act, primarily intended for such things as Holloway's pills, might, by a stretch of conscience, be made to apply to Gregory's powder, glycerine jujubes, and indeed every other compounded preparation, even where there was no claim to secrecy, if only the seller ventured to place upon the bottles or packages a label bearing directions for their ordinary uses.

There is personally known to me the maker of a preparation sold like Dale's Plaster in 1d. packets, who makes his living out of it, and should you be successful in proving Dale's Plaster to be liable to duty, the other would also be liable as a matter of course, in which case you would deprive the person of whom I am speaking of his sole means of livelihood.—Awaiting your reply, faithfully yours.

We are pleased to say that the department did not proceed further against this poor widow, but made a good "bag" out of the same article by visiting a number of well-to-do chemists. It may interest the curious to know how, after all the fines were paid, the law was successfully "evaded," so as to allow the plaster to be sold in penny pieces without the three-halfpenny stamp. It was all a matter of grammar, or want of it. Somerset House

claimed the possessive case, so it could no longer be called "Dale's Plaster"; but the conscience of that great public department was appeased by the various labels being altered to "Healing Plaster (Dale)." O sovereign Law!

HOUSEHOLD DANGERS.

By R. Laing Hay, Consulting Sanitary Engineer.

The Drainage System.

There are two principles which are of the first importance in the drainage system of a building, and which should be sought for before anything else—they are disconnection and ventilation.

I. By *disconnection* is meant the effectual trapping of the private drains from the sewage receptacle, whether the latter be the public sewer or a cesspool. The consequence of a drain being untrapped is that the pestilential air generated in the sewer or cesspool, possibly containing matter from infected persons, comes into contact with the surface traps close to the building and the traps of any fittings which discharge *into* the drain, and is emitted at any defective part with less or more serious results to the occupants of the building. On every drain, therefore, there ought to be a disconnecting trap as close to the outlet as possible, and the form of trap which is best is the one which fulfils the following conditions:—viz., (1). It should have two inches of water seal. (2). It should be self-cleansing, and should contain as little liquid as is consistent with the requisite water seal. (3). It should have no eye leading to the drain on the sewer or cesspool side. This is sometimes provided for inspection purposes, but often owing to the absence of the cap through carelessness or ignorance, the work of the trap is neutralised. (4). It should not prevent the admission of air into the drain. (5). It should be made accessible. This is best done by constructing a chamber round the trap, but when the cost is considered too much, the bringing of the trap shaft to the surface will be nearly always satisfactory. A 6-inch trap with contracted body, or even a 4-inch trap with the foregoing requirements, will be sufficient for any ordinary building.

II. *Ventilation.*—This is necessary to secure a constant current of air through the drains to purify them, to assist in preventing deposit, to relieve pressure on the surface or internal traps, which might otherwise get unsealed and allow the exit of tainted air. An inlet and an outlet are necessary. The former is best provided off the shaft or off the chamber of the disconnecting trap, and should be carried sufficiently high to clear the head of passers-by. If this cannot be done, then a mica flap-valve should be inserted to prevent any possible outflow of air which is liable to occur in a high wind, or during a discharge through the drains. The outlet is usually provided by extending the soil pipe up above the eaves of the roof, but in many cases an additional outlet is necessary; if such pipes are not carried sufficiently high—say 3 or 4 feet above the eaves gutter—there is danger of the emissions passing into the house under the slates, owing to the higher temperature inside. Where attic windows or roof-lights exist the top of such pipes should be carried up the roof slope until entirely clear of them, and then the top should be turned up from the slates. No cowl is necessary on the top of ventilation pipes, a simple wire ball cap, to prevent the entrance of extraneous matter, is all that is necessary.

In connection with this subject of ventilation of drains some one wrote to a Sunderland newspaper stating that he saw some new houses being provided with ventilation pipes of the same size and material as the soil pipe, and he considered this was an unnecessary outlay, as 1-inch pipes off each soil pipe in the town would more than provide for the removal of the foul gases in the public sewers. He thus made two mistakes—(1) He thought that private persons should ventilate the sewers through their drains, and in close proximity to windows of bedrooms and the eaves, when it is an absolute sanitary law that no sewer air should be allowed to pass into private drains at all; the disconnecting trap being placed on the latter for that purpose; (2) the supposition that 1-inch pipes would work constantly and well, even though they were admitted to be large enough, is a great mistake; in actual practice, owing to the great friction, rust, etc., they are quite useless. It is imperative that the soil pipe be carried up full bore. These are specimens of the ignorance which prevails upon sanitary matters.

III. After disconnection and ventilation the next thing which requires attention is the *construction of the drain.*

Built stone or brick drains are seldom constructed now, although they still exist in many old buildings. They are condemned for the following reasons:—(1) They retain filth, and thus become elongated cesspools, saturating and polluting the soil around the buildings and allowing impure air to escape through the joints, which are generally loose. (2) They are the dwelling-place of rats, which burrow from them in the direction of the building, their runs thus forming channels for the supply of the noxious air. (3) They are liable

to become choked by bricks, stones, or earth falling inside. Drains are now almost universally constructed of earthenware socket pipes. When properly laid and jointed these ought to be perfectly safe; but unfortunately the laying and jointing are too frequently executed by careless or ignorant workmen. Curves are made with straight pipes, instead of with proper curve pipes; the line and gradient are irregularly formed, when they ought to be perfectly straight; joints are made with clay or with cement only, when they ought to be stemmed first with hemp dipped in liquid cement, and thereafter with cement; surface traps and bends leading to pipes are unsupported, so that an opening occurs when any settlement takes place. Of these it is perhaps well to emphasise the condemnation of clay and cement jointing. Clay should never be used for this purpose, it is so readily washed out of the joints, and perforated by worms, when the liquid discharge will pollute the soil, and foul air will escape. The roots of shrubs and trees are also very liable to enter the drain through clay, and may in time completely choke the pipes. Joints made with cement alone may be quite tight, but there can be no assurance that the cement has not passed inside, and so formed an obstacle to the free passage of sewage.

Iron pipes are used sometimes for drains, especially under buildings, being more reliable and having fewer joints. The pipes should always be of heavy metal and jointed with gaskin and molten lead. Cast-iron pipes are now being made with a coating of glass enamel inside and are very good for this purpose, being almost perfectly smooth.

For ordinary houses and small buildings, pipes four inches diameter are quite large enough, although many town and local authorities insist on these being at least six inches diameter. In four-inch pipes, as compared with larger pipes, velocity of the discharge is higher, there is less chance of deposit, and the current of air passing through is greater, all of these contributing to produce a self-cleansing drain, which is the desired requisite.

A FEW examples of Fife pharmacy requirements:—1d. Tinker Robert; Toothache Emmanuel; Tincture of Mirth; 3 Antiquarian Powders; 1d. Syrup of Squirrels; a poother, 10 months old. Our correspondent adds that he was once asked for 1d. worth bitter aloes. On putting the question, "Is it for weaning a child?" he got the answer, "No; it's for spainin' a wean!" This was in Glasgow.

GOOD-BYE TO ALCHEMY.

(Continued.)

LAST month it was found necessary at the last moment to alter the amount of space booked to the symbols, and this resulted in one of the blocks being turned upside down, which exactly reversed not only the appearance but the positions of the symbols from "Brick" down to "Ashes." This is how that portion should have appeared—

BRICK ... ... 

TO CALCINE ... ... 

CAMPHIRE ... ... 

CANCER ... ... 

CAPRICORN ... ... 

GRAVELLED ASHES ... ... 

ASHES ... ... 

We wish our readers to compare the two impressions, and put their pens through the incorrect part of last month.

SYMBOLS CONTINUED.

CERUSSE ... ... 

LIME ... ... 

QUICK-LIME ... ... 

TO CEMENT ... ... 

CINNABAR ... ... 

WAX ... ... 

TO COAGULATE ... ... 

HARTS-HORN ... ... 

A CRUCIBLE ... ... 

CRYSTAL ... ... 

COPPER, OR VENUS ... ... 

BURNT COPPER, OR ÆS USTUM 

SPIRIT ... ... 

TIN, OR JUPITER ... ... 

FIRE ... ... 

TO FIX ... ... 

WHEEL-FIRE ... ... 

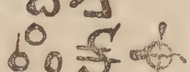
POWDER OF BRICKS ... 

TO FILTRATE ... ... 

FLOWERS OF ANTIMONY ... 

Gumm ... ... 

An Hour ... ... 

Oil ... ... 

Light, or Day ... ... 

Gemini ... ... 

Filings of Steel ... ... 

Leo ... ... 

Litharge ... ... 

Stratum super Stratum ... 

To Lute ... ... 

A Marcassite ... ... 

Sublimated Mercury ... 

Mercury Precipitated ... 

Month ... ... 

Nitre, or Salt-peter ... 

Night ... ... 

Gold ... ... 

Orpiment ... ... 

Lead ... ... 

Pisces ... ... 

Powder ... ... 

To Precipitate ... ... 

To Purifie ... ... 

Quintessence ... ... 

Realgal ... ... 

Retort ... ... 

Sand ... ... 

Saffron of Mars ... ... 

Saffron of Venus ... ... 

Sagitarius ... ... 

Soap ... ... 

Scorpion ... ... 

Sal Alkali ... ... 

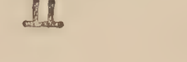
Sal Ammoniack ... ... 

Common Salt ... ...

Sal Gemme ... ...

Soap-Weed ... ...

Sulphur ... ...

Sulphur Vivum ... ... 

Black Sulphur ... ...

Philosophers Sulphur ...

To Sublimate ... ...

Talk ... ...

Tartar ... ...

Earth ... ...

Taurus ... ...

Caput Mortuum ... ...

Tutia ... ...

Glass ... ...

Verdigrease ... ...

Wine ... ...

Vinegar ... ...

Distilled Vinegar ... ...

Vitriol ... ...

White Vitriol ... ...

Blue Vitriol ... ...

Urine ... ...

The Vehicle did it.—A Philadelphia physician was called by a foreign family, and prescribed "One pill to be taken three times a day, in any convenient vehicle." The family looked into the dictionary to get at the meaning of the prescription. They got on well as far as to the word "vehicle." To this they found "cart," "waggon," "carriage," "wheel-barrow." After a grave consideration they came to the conclusion that the doctor meant that the patient should ride out, and while in the vehicle should take the pill. The supposed advice was followed to the very letter, and in the course of a few weeks the fresh air taken so regularly completely cured the patient.

Hints for the Sick-Room.

The Temperature and the Pulse.

One of the duties which is generally required of a nurse in the sick-room is the taking of the temperature and pulse. She must always be on the alert for any change of symptoms in her patient, and notify it to the doctor on his next visit. The temperature is taken by means of what is known as the clinical thermometer, and is notified on a chart specially prepared for the purpose. The heat of the body may be roughly ascertained by placing the hand on the surface of the skin, but this method often proves, even to the most experienced, very deceptive; the patient may complain of feeling hot and feverish whilst his temperature is found to be normal; on the other hand, he may be shivering and complain of a cold feeling all over the body, and his temperature be very high indeed. A good thermometer is one of the most simple, reliable, and useful little instruments we possess.

The normal temperature of the body is 98.4°. The thermometer is registered from 90° to 110°, extremes, of course, which are hardly compatible with life. The heat of the body in disease varies within comparatively narrow limits; thus a temperature of 105° is a high degree of fever which cannot be long maintained. It shows the patient to be in a very grave condition. A temperature of 96°, on the other hand, shows that the patient is in a collapsed, almost hopeless state. The ordinary fevers, measles, scarlet fever, influenza, etc., generally range in favourable cases from 101° to 103°.

For convenience, the temperature is generally taken by placing the thermometer in the armpit and next the skin, allowing it to stay there ten minutes. The temperature is generally highest in the evening, gradually falling to its lowest about 3 A.M. Unless specially ordered to be taken more frequently, the temperature is generally taken twice daily, morning and evening, and at the same hour; the difference between the morning and evening temperature can thus be satisfactorily compared—a rising or a falling thermometer prognosticating danger or a return to health.

After the temperature comes the pulse. The pulse is due to the waves of blood propelled along the arteries by the contracting power of the heart. It may be felt accordingly in any of the arteries lying immediately under the skin and uncovered by muscle; for convenience it is generally felt at the front and outer side of the wrist, where the artery is sufficiently superficial to be easily found. The normal pulse rate is 72 per minute, faster in the young, and gradually slowing down as age advances. It is rapid in all feverish conditions, generally slow in brain affections, and irregular in diseases of the heart. It is also, however, frequently found to be irregular in what are known as functional disorders arising from indigestion, etc., and also in those who consume a large quantity of tobacco.

The Destruction of Field-mice by Typhus-bacillus.—Professor Loeffler, the originator of the system of destroying field-mice by typhus-bacillus infection, has returned to Germany from Greece, where he had gone to put his system to a practical test. The professor reports that his mission has been a complete success, and that within eight or nine days the swarms of field-mice which infested the parts of the country visited by him, and destroyed the crops, were absolutely annihilated. The remedy was applied in the following manner:—The peasants in the district to be operated upon were asked to meet at a given point with baskets of odd pieces of bread broken small. This bread was soaked in the solution containing typhus-bacilli, and returned to the owners with instructions to spread it in the fields. In this manner large areas could be treated every day. Pieces of bread, saturated with the bacillus, were eaten by Dr. Loeffler and his assistants to demonstrate its harmlessness upon the human system. Horses and other large animals were also experimentally fed with it, and experienced no ill effects whatever.

A French *savant* likens the quickness of volition in an animal to the telegraph. When a whale is harpooned, he says, the nerve telegraphs to the creature's brain, "Harpoon in tail;" upon which the brain telegraphs back, "Jerk tail and upset boat."

FOOD FOR INFANTS AT DIFFERENT MONTHS.

In feeding infants, the main thing should be to provide a food that shall be easily absorbed. If this be not done, the system will be deprived of nutriment on the one hand, and the digestive organs overtaxed and burdened on the other. The majority of deaths among infants is due to disturbance of the stomach and bowels, consequent upon improper food. What are the improper foods? They are as follows:—1. Starchy foods, which a young infant cannot digest, and produce wasting, diarrhœa, and death. 2. Plain cow's milk, the dense, tough curds of which cause no end of harm. 3. Condensed milk, upon which for a time infants appear to thrive, but which ultimately tends to develop rickets in them.

It would be too much to insist that at no time in childhood are starchy foods allowable, for such is not the case. The reason that starchy foods are not permitted is because they depend for digestion upon the saliva and pancreatic juice, which are not efficient during the first few months. It is easy to see why they should not be active in the early months, for, as the mother's milk contains no starch, there would be nothing for these juices to act upon.

As already intimated, cow's milk is contra-indicated on account of the heavy curds it forms. Mother's milk is free from this drawback, as it does not curdle, but forms fine feathery flakes. To overcome the curdling of the cow's milk, gruels, farinaceous, food, gelatins, etc., were originally recommended, and certainly an infant will thrive better upon milk so prepared than upon the plain milk alone, for as the particles are incorporated with the curd, they make it more friable and less difficult of digestion. The really best means of dealing with the cow's milk is to predigest it with Fairchild's Zymine Peptonising Powders, which dissolve the casein, so that it flakes precisely like mother's milk.

The First Month.—During this period the infant should have three or four ounces of peptonised milk, say, every two hours, diluted with an equal part of water, sweetened, and a little cream added. The child should be fed regularly, and not too often.

The Second Month.—During this time the quantity of the milk may be gradually increased, and the intervals between the meals somewhat more prolonged. Do not allow a child to suck an empty bottle.

The Sixth Month.—At this epoch may be begun the administration of a little farinaceous food. Any gruel may be made and added to the milk to dilute it, instead of water. It will then be peptonised as the milk is.

Eighth Month.—Meat soups may now be given, care being taken to free them from fat.

Twelfth Month.—The child may begin to take light puddings, well-mashed potatoes with gravy, or the lightly-boiled yolk of an egg; but no meat should be allowed until the child be at least sixteen months old. Every new article of food should be given cautiously and in small quantities at first, and any sign of indigestion should be noted, and a return be made at once to a simpler method of feeding.

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From several quarters we have received letters expressing the great interest with which the *Health Messenger* is being read; but only one correspondent, Mr. John Parry, A.P.S., has observed the error in the placing of the symbols, to which we refer on page 167.

. . . . .

After all, there is some extenuation for a slip in setting so archaic a language. Had it been Finnish, French, or good Red Indian, neither printer nor editor would have deserved a jot of sympathy, as both of these functionaries ought to be perfectly familiar with every dialect under the sun and moon. But alchemy—well, it savours so much of the sun, moon, and stars, that few are so far travelled as to have mastered its magic symbols.

. . . . .

We were not a little surprised to learn that our article, "About Patent Medicines," which appeared in last month's issue, had inspired a question in the House of Commons. Mr. Wright, one of the members for Nottingham, asked Mr. Matthews whether it was the case that informers received part of the fines and penalties inflicted upon chemists under the Medicine Stamp Act. The reply was evasive, but practically acknowledged the fact.

. . . . .

The sooner this is altered the better. What should we think if the policeman received a share of the fines inflicted upon all the "drunk and disorderlies," he could manage to run in? We should say there was great danger that sober citizens would frequently be made to suffer in order to swell the profits of the guardians of the peace. Especially would this be a danger if cases could be "squared" out of court.

CAUTIONS ON BATHING.

To those who are fairly robust and do not suffer from any affection of the heart, sea-bathing is a delightful and healthy recreation, one which will invigorate the nervous system and create a beneficial stimulus throughout the whole being. There are, however, several traditions connected with it which render it rather a dangerous pastime for general adoption.

In the first place, except for persons in perfect health and with a good circulation, the early morning is not the best time to indulge in a bathe. To weak persons the shock is too great upon an entirely empty stomach. This is shown by severe headache, shivering, and intense sleepiness. Thus some are in the habit of rendering themselves miserable during their stay at the seaside, merely because they have a mistaken notion that they ought to bathe every morning before breakfast, until at least nine dips have been taken. Now everything that is good for human beings is only good in certain times, places, and quantities; and while the strong may glory in their morning bathe, the weak must be content to take it when it suits them, which will usually be about three hours after a meal. The system is then invigorated by the food which has been assimilated, and the circulation is not diverted by the heavy demands of digestion.

We need hardly say that on no account should any one go into the water on a full stomach, or soon after a meal. Many deaths annually occur from this which are attributed to other causes. A biscuit or some slight refreshment may however be taken immediately after the bathe, especially when there is a tendency to shivering.

No one should bathe while in a heavy perspiration, or while exhausted with violent exercise, or when shivering with cold. The proper and ideal condition for entering the water is after a short walk, just sufficient to create a healthy stimulus to the circulation, but not sufficient to fatigue or to cause profuse perspiration.

The time during which one may remain in the sea varies with the season of the year and the strength of the bather. A single plunge and out—that is enough to begin with for the over-worked sedentary townsman. From five to ten minutes is the average time for a person in perfect health, while the most brutally robust need never exceed twenty minutes or half-an-hour.

DOMESTIC AND PERSONAL HYGIENE.

Dangerous Berries.

CHILDREN, especially if bred in the town, are apt to imagine that every berry that grows is good for food. Parents, and guardians, and teachers should strongly impress upon them during holidays and excursions that berries found in waste places are dangerous, many being strong poisons. In the absence of special instruction, therefore, warn them to avoid eating anything they find.

Green Fruits.

UNRIPE fruits may almost be put in the same class as the poisonous berries. Children are so omnivorous, taking pleasure in devouring everything that can be chewed or torn, especially if it be surreptitiously obtained, that the consequences can hardly be too strongly put.

Dangerous Pets.

A FRENCH scientist declares that the domestic pets of the world carry at least thirty per cent. of the common contagious diseases from house to house, confirming the opinions we have on several occasions expressed.

An Attempt to render Tobacco harmless.

SMOKERS in the profession may be pleased to learn that two scientific investigators claim to have discovered a method of rendering tobacco harmless to mouth, heart, and nerves, without detriment to its aroma. A piece of cotton wool, steeped in a solution (5 to 10 per cent.) of pyrogallic acid, inserted in the pipe or cigar-holder will neutralise any possible effects of the nicotine. In this way, not only may the generally-admitted evils of smoking tobacco be prevented, but cirrhosis of the liver, which is sometimes caused by tobacco, and such lighter penalties of over-indulgence as headache and furring of the tongue may be avoided. Citric acid, it may be added, which was recommended for the same purpose, has the serious disadvantage of spoiling the taste of the tobacco.

Preventive Dentistry.

THERE are two prophecies current concerning the future of dentistry, writes Mr. Wm. Rushton in the current number of the *British Journal of Dental Science*. One—the optimistic—predicts that in time preventive dentistry (as contrasted with conservative dentistry of to-day) will successfully oppose the many adversaries which now attack the teeth; the other prophecy—the pessimistic—maintains that man will become a recruit to the ranks of the order Edentata, and that future generations will not only be toothless,

but hairless and spectacled. In other words, it is held that the dentistry of the future will be the adaptation of mechanical appliances to edentulous mouths. Mr. Rushton, however, thinks that the mean between these two extremes comes nearest the truth, that the preventive treatment of the future will do much to arrest further deterioration of tooth tissue, but that teeth will never, in highly civilised communities, be brought back to the normal state as found in the skulls of our early forefathers. Much good, he is assured, may be done by more attention being given to the general health, by the teaching of cooking especially amongst the poorer classes, and by the aid of the dental surgeon, whose services are now not alone the privilege of the wealthy, but are fast becoming available for all.

The Good Samaritan.

SPEAKING in a light and happy vein at the King's College Hospital Festival Dinner, before an audience composed largely of lawyers, although many eminent divines and doctors were present, the Attorney-General (Sir Richard Webster) playfully claimed to have found by a process of exclusion that the Good Samaritan must have been a lawyer. He gave his reasons for not assigning the distinction to various learned professions, and finally reached the conclusion that he must have been either a lawyer or a doctor, and then thought he had proved his point, because "no doctor would have poured oil and wine into an open wound." It would be treating Sir Richard Webster too harshly to consider this in the light of anything but an after-dinner joke, otherwise a very cursory reference to the history of the past would show that modern antiseptic treatment has only been reached by slow and painful stages, and that in the early days of surgery almost anything, solid or liquid, might have been employed in the treatment of wounds. We need go no further back than the *Arcana Fairfaxiana* of the seventeenth century to realise this somewhat humiliating fact; so that, in spite of Sir Richard Webster, those of a speculative turn of mind may still feel free to maintain that in the original parable the Good Samaritan was, as in the present day he so often is, a medical man.—*Lancet.*

Inhalations of Oxygen.

THERE is a decided tendency to use oxygen more freely in medical practice in this country. Dr. Lauder Brunton has written to the medical papers regarding the benefits which have accrued by its use in asthmatic and bronchitis cases where there has been breathing distress, and his communications have been followed by many others from medical practitioners, some of whom have been more successful than Dr. Brunton. All who write appear to have used Brin's compressed oxygen, and it is advised that a tube of this should be kept under the patient's bed, so that with a suitable breathing-tube attachment the patient may inhale a little occasionally, or when difficulty of breathing becomes distressing. Such a use of oxygen is by no means novel, for the gas has been much employed on the Continent. We note the fact now as showing a greater disposition to use it on this side.

POSSESSED.

BY D. TREMENS.

ACT II., SCENE I.—*Hell.*

Enter SATAN, TIRANTA, RAPLOCK, MINISTERS, *and* COUNCILLORS.

. . . . . .

SATAN. Raplock, down
With these huge keys, unlock the inner dungeons.
This the weird room lighted with eyes discloses,
Where sits Remorse, fear-haunted, call him up.
Keep the light key beside it, but with this
Open the cavern where the hounds are chained.
Let loose the Ogres—— [*Enter* OGRES.
Thus, thus, thus. Now swarm
About, but silence!—down, have quietness.
I have a journey for you. Know you whom
Tiranta courts, the lion-hearted prince?
OGRES. We know him, we know him!
SATAN. He hath dared us all
To hold him, and presumes to cast us off.
How shall we serve him?
OGRES. Tear and torture him.
SATAN. Good! that is how we treat rebellious subjects,
And traitors from the other camp we lead
Down, arm-in-arm, to hell, with promises.
Up, then, against him! Are ye all agreed?
OGRES. What will you give us?
SATAN. Laughter without smiling,
Sorrow without tears;
Freedom from beguiling
Hopes that mock and groundless fears.
OGRES. Speak the word and we are away.
SATAN. Hold! a full direction stay.
I shall endow you with the subtle power
Of visibility to earth, though spirits;
The power of sound like bleak winds moaning through
A house haunted and desolate; power of change
And shadow. Stand around, then, to receive——
But what disturbs? I feel a mortal eye
Astray from earth in some presumptuous flight,

Scanning our deeds with purpose to reveal
Our subtlest mysteries to his curséd world.
We must be clothed with the invisible,
And utter in the languages of Hell
These our designs, lest they be frustrated.
[*A rumbling sound; clouds roll over the scene.*

ACT III., SCENE 3.—*A castle garden. Mountains in the distance. Time—night.*

Enter GUELPH.

GUELPH. My mind is in a calm, a deadly calm!
Stiller than nature, for the wind afar
Howls in the mountain hollows long and low.
This vacancy of thought, this mistiness
Of mind, doth chill me to the heart, so drear,
So cold, so lone my memory hath become.
But even this is better than the weird,
Wailing and wailing of the wind in yonder
Dark, dismal glens. I shudder at the sound!—
Tho' I have listened thus a hundred times,
When back my spirit shouted to the wild
Roar of the storm in sympathetic glee;
But that was ere had fled from my young mind
All that was pure, all that was beautiful;
Ere Vacancy had reared her hollow throne,
Or worse, ere beings of a subtle kind
Had scared me. But to-night there is no storm,
No terror but the darkness, and *that wind*
Whose eerie wailing chills me like a knell
Even in the distance.
Shadows now descend
Darker and darker as the midnight nears;
Dews, or the clammy sweat of fear breaks o'er me
In drops of awful import. Hark! a voice
Awakes the solitude around, and cries—
"Prepare!"; but am I not alone? Prepare
For what? Away, 'tis fancy that affrights
More than the outward sense! What other voice
Could reach me, save *the wind*, that is approaching
From the bleak mountains whence it hath arisen?
Why doth it sound so fearfully to-night?
The midnight hurries like a feverish thought,
Voiceless and unapparent in its flight,
And passes on for ever. Oh, for ever!
There is an ocean in that dark, deep word,
Unfathomable to mortality.
I too am passing like the night away,
And every moment has an ominous sound
To warn me.—Hark! what awful cry is that
Above me, and that fluttering of wings?
Ah, cursed! 'tis *the wind* again that shrieks
High overhead, and breaks the still repose
With hellish laughter: Would that it were still.
If thou art Being, thou mocker of my peace,
Thou fearful habitant of passing air,
Be silent!—let thy shivering flight be stayed!
I marvel; as the vulture's heavy wings
Are silent o'er the battle-field's red feast,
So sink these voices to a hush, and sinks
My startled spirit; for whence have I this power
To still the elements,—if these be such.
Power of the night, on to thy destination!
Be not so still; the silence is more fraught
With terror than the company of nature.
Again that stir, unearthly breathings near,
Like panting hounds upon the bloody track,
So quick, so deep.—Horror! the reckless wind
Sweeps o'er me like the pass of many spirits:
I shudder that I am not all alone!

[*He runs towards the castle, but stops and looks back.*

My mind is waning from its mortal shroud,
I feel a power within me glimmering,
To scan the unseen a moment, and recede
Back to the darkness. Blessed darkness, stay!
The sight is fearful—fixes, stiffens me
With dread; I cannot shut my glaring eyes
Upon that vision. Faces of the dead
Leer at me—ah! they gnash their fleshless jaws,
And fan me with the garments of the grave,
Worm-eaten; reptiles appear, and round and round
And o'er and o'er, and coiling and uncoiling,
They fold me ever closer in a circle.
From every side, more terrible than they,
Come other hideous forms in ghastly ranks,
All leaping, shrieking mirthfully about.
Off, devils! off, ye shall not overcome me.
Back your chill faces,—off your slimy hands!
Shut your red eyes, they burn me.—Mercy, Hell!
Take off your swarms. Hold back, have mercy,
mercy! [*He falls, struggling.*

THE EXTINCTION OF RACES.

THE *causes of the extinction of races* may be considered here. Whether rapid, slow, or scarcely perceptible, this progressive extinction in the presence of new races, relatively superior, and differing in morals and civilisation, is an acknowledged fact. That it should be so in tribes as truly savage as the Obongos of Du Chaillu, and the Australians of Port King George, described by Scott Nind, is not surprising; but that the phenomena should be repeated among the Polynesians, who are far from being an inferior race, in the North American Indians, and in the Arabs of Algeria, is very remarkable. The same influences, however, are at work in each case; some morbid, others physiological, all capable of being summed up in one word. Among morbid causes are included diseases new to the country, and more or less contagious, which Europeans bring with them in the same way as they did the dog-grass to La Plata, and as the Americans recently

gave France the phylloxera. For example, the small-pox, imported into St. Domingo in 1518, into Iceland in 1707, into Greenland in 1732, into the Cape of Good Hope in 1748 (*Boudin*), and which, when it first made its appearance in Australia, in 1788, almost annihilated the curious tribe of Port Jackson, now called Sydney; the measles, which has just destroyed half the population of the Fiji Islands; scarlatina, syphilis, the severity of which, however, has been exaggerated; alcoholism, in all its forms, which is propagated by imitation, and easily assumes an epidemic character. Among physiological causes are a sudden change of habits, the impossibility for the native, under these circumstances, to supply his necessities as heretofore, and nostalgia combined with anæmia, which are the results of this change. Before the arrival of Europeans, the Australians were in possession of immense territories, where game was, as it were, preserved, and where food was always at hand. The kangaroo occupied the same place as the reindeer did formerly among our own ancient populations of the Périgord, or as the horse among those of Solutré. They had, moreover, vast natural pastures and cultivated grounds, the harvest from which they gathered regularly every year. They were agriculturists and sheep farmers, without having the cares and anxieties of those occupations. All at once they were driven from their hunting-fields and pasturages, the kangaroos were put to flight before the musket, and before a generation had passed they were compelled altogether to change their habits and mode of ife (*Report of the Adelaide, South Australia, Commission*). Their life was an easy one when they had a vast extent of country at their command; but when it became circumscribed in extent, and they had to contend with all the obstacles of civilisation, it became insupportable. With insufficient food, they in their naked state were unable to withstand the cold, in addition to which, dejection and sadness at finding themselves under subjugation in a country of which they had been the sole proprietors, opened the door for the ingress of every kind of disease, as well as for every sort of vice. Under these circumstances they were generally carried off by phthisis.—*From Topinard's "Anthropology."*

SCIENTIFIC AND CURIOUS.

Dr. Gerdes, of the University of Halle, is reported to have discovered the long-suspected bacillus of epilepsy in the liver, lungs, kidneys, and blood of a patient.

It is stated that wasps' nests often take fire, supposed to be caused by the chemical action of the wax upon the paper material of the nest itself. This fact may account for many mysterious fires.

The science and secret of dreams is beautifully and pithily expressed by Dr. Richardson, who states that "all musical instruments dream after they have ceased playing, and a microphone will detect their dreams."

A Merchant in Frankfort-on-Main has just been prosecuted for profanity. He had issued an advertisement, beginning with the words, "Let there be light, and there was light." The Court sentenced him to a fine of £5.

Sanatoriums are all very well in their way, but for real healthiness give me a well-conducted prison. Why, the man upon whom an inquest was held last Monday at the Winson Green establishment was the first who had died there for three years. And his was a peculiar case. He was sent to prison to get a wash. He was a tramp, and was so disgustingly filthy that the magistrate thought the prison was the only place where he could be thoroughly cleansed. He was washed, and ten days later he died, not of the washing, but of a brain disease. He was as good as dead when he was sent to prison. Dr. Price, the gaol surgeon, is proud of his record. He says it is the hard work, the spare diet, and the great amount of sleep under perfect sanitary conditions that is responsible for the healthiness of the place. Most of the prisoners when they are received are in low tone, through excess or dirt. The gaol *regimé* acts upon them as a powerful tonic; they are for a time forced to live strictly according to the laws of health; and the consequence is that if they have a month or more in the "Stone Jug," they leave it as fit as if they had had a long holiday at the sea coast. If the summer is to be as wet as the prophets foretell, some of us will pass a less profitable and perhaps more pernicious holiday than those who are staying for a month at Winson Green.—*Birmingham Post.*

Dr. L. G. Keeley, the Illinois physician, who has become famous for his alleged cure of drunkenness, has arrived in England for the purpose, it is said, of establishing a hospital where drunkards may be treated. Dr. Oscar de Wolf, formerly health officer of Chicago, accompanies Dr. Keeley.

The Philosophy of Fire.—The following is a description of the process of combustion in the ordinary lighting of a coal fire:—The phosphorus on the match inflames at the low temperature of 150 deg. F., and mere friction ignites it. In burning it combines with the oxygen of the air, and gives out heat enough to raise the sulphur on the match to the ignition point of 500 deg. This combines with more oxygen, and gives out sufficient heat to raise the temperature of the wood in the match to 800 deg., at which point it combines with oxygen to give out a temperature of 1000 deg., which raises the coal to a temperature required for ignition, and the latter takes on more oxygen, rising to the temperature of 3000 deg. or more, according to circumstances. The ignition of the coal is the last in a series of progressive steps, each increasing in temperature.—*Science Siftings.*

Many a man is rich without money. Thousands of men with nothing in their pockets, and thousands without even a pocket, are rich. A man born with a good, sound constitution, a good stomach, a good heart and good limbs, a pretty good head piece, is rich. Good bones are better than gold, tough muscles than silver, and nerves that flash fire and carry energy to every function are better than houses and land. It is better than a landed estate to have the right kind of a father and mother. Good breeds and bad breeds exist among them as really as among herds and horses. Education may do much to check evil tendencies or to develop good ones, but it is a great thing to inherit the right proportion of faculties to start with. The man is rich who has a good disposition, who is naturally kind, patient, cheerful, hopeful, and who has a flavour of wit and fun in his composition. The hardest thing to get on with in this life is a man's own self. A cross, selfish fellow, a despondent and complaining fellow, a timid and care-burdened man, these are all born deformed on the inside. They do not limp, but their thoughts sometimes do.

Typhoid and Polluted Water.—At a meeting of the Foleshill Sanitary Authority, Dr. John Orton, medical officer, presented his annual report. The population was estimated at 20,000. The births numbered 700, and the deaths 428, giving a birth-rate of 35 per 1000, and a death-rate of 21.4. The lowest death-rate was at Ansty, 7.7, and the highest at Sowe, 27.4. Enteric or typhoid fever had been reported persistently from Bedworth, and he attributed the chief cause of the disease to the insufficient and polluted water supply. The principal supply was from Bottom River, which was known to be polluted. He hoped the defect would soon be remedied by the Eaat Warwickshire Water Company. Scarlatina and influenza had been very prevalent during the year, sixty-five cases having been reported.

There is no geologic evidence that the earth was ever in the incandescent condition of the sun. It is one thing to show that certain stars and nebula are incandescent, and another to show that the earth was ever in the same condition. No investigation has found a planet in a state of incandescence, or even molten. They are all solid with vaporous nuclei, and gathering their vitality from the energies of the sun, or suns, about them. The universe is filled with matter—and in all conditions of gaseous, liquid, and solid; and each of the three states are found in all conditions of temperature and pressure. There is no intellect so daring that it may seek beyond the solar system for its facts. While gaseous disassociation of chemical elements are predominant in the sun, we find them nowhere else in the solar system. If it be said in parity that the stars are suns, much like ours, the same parity is justified if one claims that these suns are nearly identical with ours, and have a series of worlds around them like ours. If so, then those worlds are as much like ours as Mars, Jupiter, or Neptune.—*Science Siftings.*

They seem to have uncertain ideas about labial sounds in South Devon. In a collection sent us from that part of the country we find "yellow misseleken," "edsom salts," "balsam of baloria," "bazaline," "homeopathic oil for a spirit lam," "antaebus bills." The customer for the last-named also wants some "coloured lame."

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

AN-NILE-ATED—NEARLY.—A lady missionary who recently became seriously ill after drinking the unfiltered water of the Nile.

"WILL you please give me an ounce of cob-webs," was the question put to a pharmacist in the Birmingham district last week. The customer was supplied with cubebs.

LECTURER: "Now tell me what best satisfies the affinity of soda?"

STUDENT (clearing his throat and looking unutterable things): "Brandy, sir."

"VERY cute little dodge of that druggist, selling me a porous plaster, with the privilege of returning it if it did no good."

"Well, why don't you return it?"

"I can't."

PAT'S IDEA OF A CHARGE.—Magistrate: "Constable, what is the prisoner charged with?" Police-Constable Lafferty: "Well, your worship, I'm not much of a judge, but it smells a good deal like whisky."

OLD FOGIE (chemist): "Chest protectors, indeed! Did any of our forefathers use them, do you think?"

TRAVELLER (sepulchrally): "No; but where are they now? Dead, every one of them!"

THIS is from the middle of England:—Young woman (seamstress evidently) yesterday required to be served with a "pennoth o' potash shirt-buttons." Tablets pot. chlor., labelled accordingly, were supplied.—We had the same from the classic city of Edinburgh some time ago.

AT a local preliminary medical examination a candidate was asked to compare "sick." He was a little shaky in English grammar, but he deemed it best to make some sort of answer, and he cudgelled his brains diligently. At length he felt able to record his decision. It was: Positive, sick; comparative, worse; superlative, death.

OF COURSE HE PASSED.—A well-known physician, a distinguished specialist, was examining a medical student, when he put to him the case of a fever, the symptoms of which increased in intensity until at last the crisis arrived.

"What would you do?" asked the doctor of the student.

"Well," replied the latter, being unable after some minutes' anxious reflection to arrive at a solution of the difficulty, "I should send for you."

The joke, fortunately, was taken in a friendly spirit, and the young man got his diploma.

A STORY is told in the *Medical Record* of how a hotel proprietor was hoist with his own petard by a doctor. The doctor, who arrived at the hotel late in the evening, at once went to bed. When looking over his bill, before leaving, he noticed he was charged for supper on the night of his arrival. His objection to the charge on the ground that he had had no supper was met by the clerk saying, "But you were here, and might have had it." The doctor at once made out a bill for medical services and presented it to the clerk, who replied he was not aware the doctor had been called on for medical service. "Oh, no," said the doctor; "but I was here, and I might have been." No further demand was made for the questioned item.

AN American physician complained recently to a fellow-practitioner that he had great difficulty in procuring his fee from fathers of new-born babes. His friend found a remedy for this state of affairs. On attending a case shortly afterwards, and being asked if it would be quite as convenient were he to be paid his fee in a week's time, he promptly replied, "Quite, for I never lose any money on obstetrical cases." "Indeed," asked the parent. "Well," said the doctor, "it is becoming a well-established superstition based upon facts, that parents who allow their infant boy to start in life with a debt hanging over his head are sure to have a ne'er-do-well son, and the girl in such a predicament is sure to marry a pauper." The feelings of the anxious mother could not bear this awful strain, and the fee was duly paid.

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ADVERTISERS.

The Health Messenger is now believed to have a larger circulation than any other lay Health Periodical in the world.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

Scarlet fever is very prevalent in some parts of England, the London hospitals especially being unable to contain all the cases that keep pouring in.

* * *

We need hardly remind our readers that it is an offence against law and morality for any one who is suffering from an infectious disease, and who is not thoroughly disinfected after recovery, to be in any public place or building, such as a workshop, church, school, omnibus, or railway train.

* * *

The same precautions require to be taken by persons who, although not suffering from a disease, come out of an infected house. They may carry to others the infection of a malady from which they themselves have escaped.

* * *

A young friend of ours recently took scarlet fever under conditions which rendered it certain she had contracted it in a railway carriage, either from some one who had suffered from the malady or who had come from an infected house.

* * *

On the day we published our last number, which contained cautions against eating poisonous berries, a report appeared in a Newcastle paper of two deaths from laburnum seeds. Children cannot be too often warned against eating wild fruits indiscriminately.

* * *

An Irish soda water maker was last week fined for manufacturing and selling aerated waters which contained one-sixth of a grain per gallon of lead. This contamination in water, whether plain or aerated, is much more common than the public is at all aware. No water should be drank which has not first been passed through a reliable filter.

What next! The *Lancet* of July 2nd reports from a lay paper how "three Frenchmen laid a wager as to who would drink the most water, and all three of them died in a comparatively short time." Our learned contemporary takes this *au serieux*, without question as to whether the "short time" was forty years, more or less, or whether the wine previously drank was not a factor in the deaths. The *Lancet* states that where large quantities of water are drank, as on the battlefield, or where there has been great loss of blood, it is advisable to add a little salt to the water, which is then nearer to the specific gravity and constitution of the blood. This is good advice. We also recommend our readers to take a little salt with their anecdotes.

* * *

Of the 184,482 deaths which occurred in England and Wales during the first quarter of this year, 12,682 were due to infectious diseases. Of these were attributed

5202 to ..... whooping cough.
2769 to ..... measles.
1361 to ..... diarrhœa.
1306 to ..... diphtheria.
1078 to ..... scarlet fever.
890 to ..... fever.
76 to ..... small-pox.

* * *

It is interesting to note the difference in the mortality from infectious diseases between the large towns, the small towns, and the country. For every 1000 persons living, the zymotic death-rate is in the 33 largest towns 2.32, in the 67 other towns 1.78, and in the country 1.32. This seems to illustrate the truth that the danger of infection increases according to the density of the population.

* * *

Births, deaths, and even marriages are subject to fluctuations, which are as regular as the tides of the ocean or the seasons of the year.

The marriage rate is invariably lowest in the first quarter, and highest in the last quarter of the year. Deaths are most numerous in the first quarter, and least numerous in the third. Births occur most frequently in the two first quarters of the year, the second being usually the highest, and the last quarter (October-December) the lowest.

THE LENGTH OF LIFE.

The statistics of life insurance show that in the last twenty-five years the average of man's life has increased five per cent. or two whole years, from 41.9 to 43.9 years. Woman's life average has improved even more than this, from 41.9 to 45.8 years, or more than eight per cent. Out of every 1000 males born at the present day twenty-four more will attain the age at thirty-five than used to be the case prior to 1870; the combined life of every 1000 persons born at the present day is 2700 years longer than it was twenty-five years ago. The average human life is now being added to at the rate of nearly ten years each century. If the future of man's mechanical industry lies under the shadow of the laws of energy, the future of his whole bodily nature, its health, beauty, and organic purity, its strength of muscle, nerve, and brain, depend upon intelligent obedience to the new table of biological commandments. In his ignorance of human biology, man has done little or nothing to protect society from the fatal percentage of disease, crime, and incompetence. Like a patient beast of burden, humanity has staggered since Eden under a load of ills, nearly all of which might have been prevented by a vigorous application of scientific biological restraints. We have been quick to adopt railways, but we cannot realise heredity; we have eagerly put our ear to the telephone, and been wilfully deaf to the voice of science, which is offering to tell us how to make our own children strong and fair.—*The Forum.*

* * *

Vital statistics for week ending July 2nd:—

Cities and Boroughs.	Population.	Births.	Deaths.	Death Rate.
33 Towns.....	**10,188,449**	**6378**	**3348**	**17·1**
London	4,263,294	2489	1377	16·8
West Ham	217,113	166	66	15·9
Croydon	106,152	67	36	17·7
Brighton	116,424	58	21	9·4
Portsmouth	163,667	74	46	14·7
Plymouth	85,610	56	28	17·1
Bristol	223,592	138	81	18·9
Cardiff	136,181	81	37	14·2
Swansea	92,344	71	29	16·4
Wolverh'ton.....	83,519	48	34	21·2
Birmingham.....	483,526	310	156	16·8
Norwich.....	102,736	62	36	18·3
Leicester.....	180,066	127	59	17·1
Nottingham	215,395	151	63	15·3
Derby.....	95,908	64	29	15·8
Birkenhead.....	101,264	64	34	17·5
Liverpool	513,790	344	195	19·8
Bolton.....	116,261	102	36	16·1
Manchester.....	510,998	364	215	21·9
Salford	201,058	137	71	18·4
Oldham	134,221	86	56	21·8
Burnley	90,589	63	33	19·0
Blackburn.....	122,238	88	32	13·7
Preston	109,038	70	47	22·5
Huddersfield.....	96,599	50	31	16·7
Halifax	84,097	36	32	19·8
Bradford	219,262	106	61	14·5
Leeds	375,540	242	98	13·6
Sheffield.....	329,585	208	113	17·9
Hull	204,750	144	54	13·8
Sunderland.....	132,839	96	57	22·4
Gateshead	88,588	63	30	17·7
Newcastle	192,205	153	55	14·9

THE STAFF OF LIFE.

By the Editor.

One of the peculiarities of human reason is that it is apt to search minutely for small things while the greater lie unheeded under its ken. Thus more attention is given to the adulteration of coffee, which forms only a very little element in our food, than to the purity and suitability of bread, which is the "staff of life." The mixture of chicory with our coffee may affect the digestion of a few—and that not always unfavourably; it certainly detracts from the flavour of the fragrant bean; but the life courses are not affected by it either one way or another. But the same cannot be said of any alteration in the quality of our daily bread. Here we have a large item in the sustenance of the individual and of the nation. A change of grain, as of oatmeal to barley, or barley to wheat, or the substitution of white bread for brown in the natural diet, may have weighty consequences—may even hasten the decline of a dominant race. Therefore the smallest deviation from the beaten track should be carefully watched, and its results calculated.

Within the memory of the present generation, the pease bannocks, barley scones, and oat-cakes of the Scottish peasantry have been in great measure replaced by "baker's bread" and potatoes. Similar changes have taken place, although not so rapidly, in the agricultural districts of England; while many persons ascribe in no small degree the degeneracy of the Irish peasantry to physical deterioration brought about by feeding so largely upon potatoes, a diet which is wofully deficient in the elements which go to keep the bones, the brain, and the vital energies in good repair.

Let us remember the wonderful manner in which the various structures of the body select out of the blood as it passes, and appropriate to their use, the materials for building up their substance. Every molecule of the healthy body is ever on the alert to seize upon what it requires, as that is borne on by the crimson river of blood which courses past its abode. But if this river does not contain suitable nourishment for all parts, then must some organs suffer from a species of starvation. Nor is it enough that the deficiency of one day should be compensated by a double supply the next. The constructive forces of the body are only able for the work of the hour, and if constant though small supplies are not regularly provided, the living structure is not solidly built. On the other hand, if any injurious substance be introduced into bread, it is all the more hurtful from the large quantity of it which is consumed, and the regularity with which it is eaten.

There is an unfortunate preference amongst all classes for having only the whitest of bread on the table. The housewife who bakes at home will pay a little more for flour which yields a white loaf, and the baker caters to the same end. To such a point has this come that any means will be employed, natural or artificial, to obtain the good colour. Alum is not unfrequently added to whiten bread made from a second quality of flour. Of course this is illegal, but the alum is not always added directly. It may be introduced in the form of baking-powder, some cheap varieties of which contain from 25 to 30 per cent. of this pernicious ingredient.

The unfortunate circumstance about the craze for white bread is that the dark-coloured husks and inner coating, which in milling are removed to improve the colour of the flour, contain a larger amount of phosphates and other mineral salts than the inner portion of the grain. And as these salts are highly necessary for building up and repairing the brain, the bones, the teeth, the hair, and indeed for enriching the blood generally, the staff of life, and the human lives of which it is the staff, are seriously impoverished thereby.

We feed our cattle with far more scientific wisdom than we do our children or ourselves—because we give them the coarse with the fine, the husk with the grain. Nay, by a huge

marvel of stupidity, by a contradiction of conduct utterly unsurpassed, we feed the very corn in the fields with what we know trebles its productiveness, and afterwards carefully remove from the ripe grain, before we use it, those very elements, which we know are as necessary for our sustenance as they are for that of the corn. The thrifty farmer adds to the soil the phosphates and other chemicals which the last year's crop took away; and this year's crop will in turn take up and abundantly flourish upon these added salts, leaving the ground again in comparative poverty. Then what does the miller do, with the sanction of society? He takes the horny skeleton of the grain, which is the counterpart and complement of the bony skeleton of man, completely removes it, and carefully throws it away.

"But," you say, "we cannot eat the husks of corn, any more than we can the bones with the meat. Our nails, our teeth, our stomach alike would fail to rend, rive, or digest these hard and horny substances. As well might you ask us to eat the bones of beef and even the hide with its hairy covering." In all sober seriousness do we reply that yours is the loss in being unable to eat both the bones and the hide. Think of the strong phosphates and the rich gluten which you miss by doing so! Think of the strength of the lion, which devours its prey, skin and bone and all; and of the comparative feebleness of man, who throws the best of his substance to the dogs, the pigs, or the manure heap.

(*To be continued.*)

An absent-minded doctor, on calling upon a gentleman who had been for some time ailing, put a fee into the patient's hand, and took the medicine himself which he had prepared for the sick man. He was not made sensible of his error till he found himself getting ill, and the patient getting better.

From a Cathedral City.—"Two pennyworth of an unadulterated drops." "A lump of burning city the size of a walnut."

PUBLIC HEALTH PAPERS.

By Charles J. Russell McLean, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. 1.—Air.

It is intended to make these papers readable, if possible, both by the profession and the public generally; hence a difficulty. But it is hoped that, if seemingly too elementary for the one, or too advanced for the other, each will assimilate what is suitable, and pardon the rest.

Pure Air, according to Dr. Smith, is composed of 20.99 per cent. of oxygen (by volume), .033 per cent. of carbonic acid, and the remainder of nitrogen, watery vapour, and slight traces of ammonia. The latter is derived from the decomposition of organic matter, which is always going on around us. The oxygen varies from 20.99 per cent. in pure mountain or sea air to 20.90 in towns; the carbonic acid ranges from .02 to .05 per cent. The functions of the different gases are—oxygen to support animal life, nitrogen to dilute the oxygen so that it can be breathed; carbonic acid and ammonia to support vegetable life. The various impurities in the air are chiefly derived from respiration, putrefaction, and combustion, and are either gaseous or suspended. That there are suspended particles in the air can be easily proved by closing the shutters in a room and allowing the bright sun to enter at a small aperture, when the little shining particles familiar to every one may be observed in the direct rays of the sun.

The requisite purity of the atmosphere is regulated by winds, rain, by the law of diffusion of gases, and by the green colouring matter of plants (chlorophyll), which, under the action of sunlight, absorbs the carbon of the carbonic acid, and so builds up the plant, giving off oxygen to the air. In darkness, however, the action is partly reversed, the plant using up the oxygen.

The great value of pure air will be understood when it is stated that about 10,000 grains of oxygen are inhaled and 12,000 grains of carbonic acid given off by one person in twenty-four hours alone, or, according to another estimation, about 350 cubic feet of air pass through the lungs every day. It has also been estimated that 3400 people will give off as much carbon in twenty-four hours as can be obtained from about one ton of coals. After looking at these figures, it will be seen that a very small increase in any impurity would amount to a large excess in say twenty-four hours or a week.

Oxygen.—It is unnecessary to say anything more on the subject of oxygen than that it is upon its presence in the air that animal life depends.

Carbonic Acid Gas, as regards animal life, is an excretion and impurity; but besides it we have other excretions—viz., organic matter and watery vapour. Carbonic acid gas diffuses readily through the surrounding air, but the organic matter, being less volatile, hangs about like wreaths of smoke, and it is as much due to this as to the carbonic acid that a room gets what people call "close and stuffy."

As examples of the effect of impure air on the human system the following facts may be cited:—First, the well-known case of the "Black Hole of Calcutta," during the Indian Mutiny, where 146 prisoners were confined for one night. In the morning 123 were found dead, and of the survivors few ever recovered their former health. Or again, the case of the steamer *Londonderry*, which encountered so severe a storm one night in 1848 that of the 150 passengers who had to be shut down in the cabin 70 were found dead in the morning. Or still another instance, viz., after the battle of Austerlitz, where 260 out of 300 Austrian prisoners died after twenty-four hours close imprisonment. In all the above cases it was probably want of oxygen, together with excess of organic excretions, which caused the deaths more than excess of carbonic acid. In Hammond's experiment of putting a mouse under a glass cover, and at the same time removing the carbonic acid, the mouse died in forty-five minutes from poisoning by its own excretion of organic matter.

It is an undoubted fact, as proved by many observers, that consumption is a very common result of bad ventilation. This used to be a very common disease in the English army, but since the cubic space and supply of fresh air have been increased in all the barracks, it has been much lessened.

Sewer Gas (which includes carbonic acid, hydrogen sulphide, etc.) is a frequent source of air pollution, and the effect of this was well exemplified at a school in Clapham, when twenty boys out of a total of twenty-two were affected in a few hours, due to the opening of a foul drain at the back of the house. Curiously, the workmen escaped.

Decomposing Animal Matter gives off dangerous and noxious gases to the air. At the siege of Sebastopol, when large numbers of the bodies of French horses lay rotting and unburied, they caused a very fatal outbreak of typhus fever amongst the French soldiers.

Marsh Air, again (including carbonic acid, hydrogen sulphide, marsh gas, etc.), is of a very injurious nature; and there is a fact worth knowing here, viz., that marsh gases cling closely to the ground, so that if any one is forced to stay in a marshy region, they should select high rooms to sleep in; or if in the open air, then up in some tree, so as to escape the stream of marsh air which may set in during the night, and perhaps cause death. Dr. Balestra believes the danger to be in a "microphyte granule" in the spores and sporangia of a little algoid plant which he found in the air of the marshes near Rome. It was here that the Palatine monks planted belts of Eucalyptus trees to prevent the poisonous marsh air reaching their monastery, and with good effect, as it stayed the malarial fevers caused by the marshes,

but was disastrous in its effects on the individual tree planters, as they all died.

Marsh gas and carbonic acid are abundant in coal mines, and good ventilation is therefore required for the safety (marsh gas being very explosive) and health of the miners.

Coal gas for illuminating purposes requires much oxygen, and gives off much carbonic acid; an ordinary No. 3 burner has been estimated to destroy as much air as three men. This shows the bad effects of gas burning, where there is not abundant ventilation. Sulphur compounds also are common impurities in coal gas.

Detection of Impurities.

The *Carbonic Acid* in the air of a room should, according to Dr. Smith, be kept under .06 per cent., and to detect any excess he gives a simple method, viz.:—Take a clear glass bottle, capable of holding 10½ ounces, and put into it half an ounce of clear lime-water, cork, and shake up. If a white precipitate ($Ca\ Co_3$) occurs, the Co_2 is over .06 per cent.; if it remains clear, it is safe and under .06 per cent. Various-sized bottles may be used, to show exactly how much Co_2 is present according to a recognised formula. Pettenkofer's method, which gives a more exact estimate, is more difficult, and therefore will not be described.

Organic Matter.—To detect the presence of organic matter in the air, draw a known amount of the air through a bottle of distilled water, to which some potassium permanganate solution of known strength has been added; and when decolourised the amount of decomposed potassium permanganate represents the amount of oxygen required to oxidise the organic matter; or the water may be examined by Wanklyn's process, and the result expressed in "Ammonia."

Watery Vapour is estimated by the Wet and Dry Bulb Thermometers.

Sulphur, by its blackening white blotting-paper soaked in some acetate of lead solution.

(*To be continued.*)

THE FEEDING OF INFANTS.

(*Continued.*)

By Edward F. Pratt, L.R.C.P., Lond.

The next point is the conduct of the mother herself while suckling. Of course the next important item is her diet, as there is no doubt that various substances of which she may partake are eliminated by the breast, and so upset the digestive system of the infant. She should therefore take a plain, mixed diet, with rather an excess of fluid over the amount to which she is generally ordinarily accustomed, and she should have a very limited use of drugs.

The excess of fluid taken must be of a nutritious character, such as beef-tea, mutton-broth, gruel, milk, etc. A moderate amount of stout or ale is sometimes advantageous, but should not rashly be partaken of; too much meat must not be taken, nor must tea be indulged in to excess.

The question now arises, What are we to do in these cases where, for some reason or other, the mother is unable to suckle her child? There are three courses open, viz.—

(1.) Take the child off the breast entirely, and bring it up on artificial food.

(2.) Rear it by means of a wet-nurse.

(3.) Supplement the mother's milk by some form of artificial food.

In those cases where the mother's inability to suckle is caused by illness of a serious nature, then it may be advisable to resort to either the first or second method; but where the milk is simply scanty, then the third method is the only one which should be entertained.

Wet Nurses.

Next to natural feeding, that by means of wet nurses, *certeris paritus*, is the best. With regard to the selection of such a nurse, all I shall say here is that it is necessary she should be healthy, clean, between twenty and thirty years of age, of a quiet temperament, sober, and married; but I would strongly advise all mothers to leave such selection to their

medical man, for the responsibility is a grave one, and he will be a much better judge of the health of a nurse than they will be. If the woman be unmarried she should not be chosen on any account, unless her child be her *first.* It is not absolutely requisite that her baby should be of the same age as the one she has to suckle, as a difference of one or two months is not of vital importance.

Let me, in conclusion, draw attention to one point in connection with the diet of a wet nurse, and that is—*Do not change her food from that which she is accustomed to take.* A woman who has always been accustomed to the plainest and perhaps coarsest fare, becoming an inmate, in the capacity of wet nurse, of a house where the living is of the most refined nature, and, in mistaken kindness, is at once made to partake of the same food as the family, is bound, in 99 cases out of 100, to suffer in her health, and in consequence her milk deteriorates and becomes unfit for food for her foster-child. *By all means let her continue in her accustomed mode of life.*

Artificial Foods.

We next proceed to the study of this method, and it is sometimes a very difficult problem to solve to obtain exactly the most suitable artificial food. In the first place, let me impress upon mothers and nurses the folly of buying certain foods and food-stuffs, solely *because they are cheap;* they must remember that the future condition of the child depends upon its feeding while it is yet a baby, and that therefore they must positively spare no expense to obtain the most suitable materials for making fine healthy children and adults of their infants.

Artificial foods may be divided into—Cow's milk, ass's milk, goat's milk, condensed milk, and farinaceous foods, as Benger's food, Robinson's patent barley, Mellin's food, Nestlé's food, Frame food, etc., etc.

If brought up on the breast, a baby should require nothing else until it is five or six months old. In like manner, if brought up artificially it should require no farinaceous food-stuffs, but simply cow's, ass's, goat's, or condensed milk, but of course prepared in a way which I shall presently describe.

Ass's and goat's milks are in some cases more satisfactory to use than cow's milk, but the difficulty in this country experienced in obtaining them compels us to banish them from the list of artificial foods. We can therefore proceed at once to the study of the preparation of a cow's milk diet.

Of course it will be understood that our aim must be to produce a food as nearly as possible the exact counterpart of healthy human milk, so that the following points must be known :—

Firstly. Healthy human milk is sterile—*i.e.*, it contains no micro-organisms—so that the first thing to do is to sterilise the cow's milk, and this is accomplished *by boiling.*

Secondly. Cow's milk is far too strong for a child to take undiluted, so that it is found necessary to add water.

Thirdly. There is more sugar in human milk than in cow's milk, so that that article must also be added. Here let me draw attention to a most important point—*don't use ordinary cane-sugar!*—both because it is not the sugar which is contained in breast milk, and also because it is liable to undergo fermentation in the stomach, and so cause the baby a great deal of uneasiness and suffering. That which should be used is milk-sugar, or a preparation called "compound sugar of milk" is exceedingly good, containing the phosphates which are wanting in diluted cow's milk.

I have found the following to be the most successful imitation of breast milk:—

1 teacupful of *boiled* cow's milk.
1 teacupful of *boiling water.*
½ teacupful of *rice* or *barley water.*
1 dessertspoonful of cream.
Some sugar (as described above).

This mixture should never be given to the baby hotter than 98° F.

If the child be constipated use barley water, and if the reverse use rice water.

In cases where, for some reason or other, vomiting ensues, the addition to the above mixture of half a teacupful of lime-water will usually check it.

A baby may be reared on this food with ease and comfort to itself for the first five or six months, at the end of which time it must be supplemented by one or other of the farinaceous foods. During the first *two* months it should have an ordinary feeding-bottleful every *two* hours; then for the next six weeks, 1½ bottlefuls every *three* hours, and then 2 bottlefuls to the end of the tenth month, when it should be quite ready and fit for "weening."

NOTICES OF BOOKS.

"Public Health (London) Act, 1891," with an epitome and copious index, by A. C. Maybury, D.Sc., M.K.C.S., F.G.S., etc. (London: Henry Kempton, 82 High Holborn, W.C. Price 1/-.)—This Act is one of those endeavours to codify the law so devoutly to be wished in every branch of our legal system. The necessity for it may be judged by the fact that no less than thirty-five enactments are repealed under its provisions. This ought to render the study of Public Health Law in London a vastly simpler matter than it has hitherto been. Medical officers and others interested in sanitation will be very grateful to Dr. Maybury for the epitome, and especially for the excellent and copious index, by means of which any subject dealt with in the Act can be referred to without a moment's delay. As there are over a thousand references—from "Animals, prohibition against keeping," to "Young persons employed in workshops"—some idea may be formed of the value of this index. We ought to mention that our copy is an advance one, but the issue will be ready very shortly after this notice is printed.

"The Ear, its Structure, Mechanism, and Connection with the Throat; also Hints for Domestic Treatment." By Richard Ellis, F.R.C.S., Edin., etc. (London: Walter Scott, Ltd., 24 Warwick Lane, E.C. Price 7d., post free.)—This is a new edition of an old friend. Dr. Ellis' popular lecture has been more read than most health lectures, simply because it is so readable, so practical, and so easily "understanded of the people." Both the public and the profession have much to gain by the diffusion of popular knowledge on health subjects, because ignorance is alone responsible for the neglect and ill-treatment from which so many of the delicate structures of our bodies suffer. The more knowledge the greater the caution, and the sooner is medical advice sought and acted on. Much useful information is contained in the lecture on such subjects as, Causes of deafness, Noises in the head, Care of the ears during infancy, etc., etc.

NOTES ON NOVELTIES.

The "Marjorie" Feeding-Bottle Protector.—This has been sent us we know not by whom, but being vastly interested in everything appertaining to the comfort and safety of babies, we would mention that its purpose is to fix the bottle in one position, either to the lining of the cot or perambulator, or to the nurse's dress, so that it can neither be overturned nor broken. We think we can see the feminine mind in the invention, which is a happy thought well executed. It may be obtained from chemists.

Bovril.—We presume no holiday is complete without some reliable essence of meat; and of these Bovril is one of the most largely used, containing as it does the fibrine as well as the flavour of beef. A cup of really invigorating beef-tea can be made from it in the short space of time required for pouring a teaspoonful of Bovril into a cup and filling up with boiling water.

The Thirst for Beer pursues even the teetotaller into the holiday wood and the harvest-field. To meet the case we have now Messrs. Newball & Mason's "Extract of Herbs," by which a non-intoxicating beverage may be readily and inexpensively made possessing all the advantages of "Bass' Bitter," without the drawbacks and dangers thereof.

QUERIES AND COMMENTS.

E. J. S.—We do not give the addresses of our contributors, but will forward to them any communications sent care of the Editor.

F. B., York.—Yes, what we printed in the June number is only an extract from a complete dramatic poem. We only grant introductions through our fighting editor, who will be pleased to arrange a meeting between yourself and Mr. Tremens. Weapons, bottles.

Constantine.—We do not give medical advice. Consult your own family doctor.

The Health Messenger.
LONDON: 24 WARWICK LANE, E.C.

LITERARY CONTRIBUTIONS *and Correspondence should be addressed to THE EDITOR, 20 West Grainger Street, Newcastle-on-Tyne.*
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TO RESTORE THE APPARENTLY DROWNED.

AT the present season of the year we recommend to our readers the following directions for restoring persons apparently drowned, which are given by the Royal Humane Society:—Send for medical assistance, blankets, and dry clothing, but proceed to treat the patient *instantly*. The points to be aimed at are, *first* and immediately, the restoration of breathing; and, *secondly*, after breathing is restored, the promotion of warmth and circulation. The efforts to restore life must be persevered in until the arrival of the doctor, or until the pulse and breathing have ceased for *an hour*. Turn the patient on his face, to let the water run out of the mouth and air-passages.

The following is the Sylvester method of restoring natural breathing:—

Rule 1.—To adjust the patient's position: Place him on his back or on a flat surface inclined a little from the feet upwards; raise and support the head and shoulders on a small firm cushion or folded article of dress placed under the shoulder-blades. Remove all tight clothing from about the neck and chest.

Rule 2.—To maintain a free entrance of air into the windpipe: Cleanse mouth and nostrils; open the mouth; draw the tongue forward, and keep it forward. An elastic band over the tongue and under the chin will answer this purpose; or, better still, hold the tongue out with your handkerchief.

Rule 3.—To imitate the movements of breathing: First, induce inspiration. Place yourself at the head of the patient; grasp his arms; raise them upwards by the sides of his head; stretch them steadily but gently upwards for two seconds (by this means fresh air is drawn into the lungs by raising the ribs). Secondly, induce expiration. Immediately turn down the patient's arms, and press them firmly but gently downwards against the sides of his chest for two seconds (by this means foul air is expelled from the lungs by depressing the ribs). Thirdly, continue these movements.

Repeat these measures alternately, deliberately, and perseveringly fifteen times in a minute, until a spontaneous effort to respire be perceived (by these means an exchange of air is produced in the lungs similar to that effected by natural respiration).

Rule 4.—To excite respiration: During the employment of the above method, get some bystander to excite the nostrils with snuff or smelling-salts, or tickle the throat with a feather, rub the chest and face briskly, and dash cold and hot water on them alternately; friction of the body and limbs with dry flannel or cloth should be had recourse to. When there is proof of returning respiration, the individual, under medical supervision, may be placed in a warm bath, the movements of the arms being continued until respiration is fully restored. Raise the body in twenty seconds to a sitting position, dash cold water against the chest and face, and pass ammonia under the nose. Should a galvanic apparatus be at hand, apply the sponge to the region of the diaphragm and heart.

Treatment after natural breathing has been restored.—To induce circulation and warmth: Wrap the patient in dry blankets, and rub the limbs upwards energetically. Promote the warmth of the body by hot flannels, bottles of hot water, heated bricks, etc.

When the power of swallowing has returned, a little warm water, wine, brandy, or coffee should be given. Keep the patient in bed, and encourage sleep.

Should breathing be distressed, apply large mustard plasters to the chest and between the shoulders.

There are other methods of performing artificial respiration, *notably* that of Dr. Marshall Hall, but the object is the same—viz., to imitate the movements of natural breathing as closely as possible. Dr. Sylvester's plan is sufficient for the purpose, and has the great advantage that one person can perform it.

HOUSEHOLD DANGERS.

(*Continued.*)

By R. Laing Hay, Consulting Sanitary Specialist, Newcastle-on-Tyne.

There are some other points in connection with the external sanitary work of a building which call for attention—viz., the soil and rain pipes, surface traps, inspection chambers, and flushing tanks.

The Soil Pipe.—It is of the first importance that this should be of sound material and construction, because by it the most important fitting within the building—the W.C.—has direct connection with the drain. If any defect exists in its jointing, material, or drain connection, foul and dangerous air will escape into the building direct, if it be placed inside; or will pass through open windows, or through the foundations (which are generally loose), if placed outside.

In this country the weather is not so severe as to prevent the soil pipe being placed outside, and it is better so placed; but there is no reason why a safe and sound soil pipe should not be fitted internally, if necessary or desired. For external purposes the piping should be of heavy metal, jointed with yarn and molten lead; and to prevent rust the pipes should either be coated with Dr. Angus Smith's rust-preventing solution, or they should be coated with glass enamel internally, whilst the piping in internal positions ought always to be of drawn lead. Many old soil pipes are formed with seamed lead—*i.e.*, with a joint running vertically, and sometimes the lead pipes are jointed by means of slip joints. This material and jointing are unreliable, and ought always to be condemned.

Rain Pipes.—A very great danger exists to the occupants of such houses as have rain pipes *discharging direct into the drain or sewer.* The foul air is thus laid on to the house and escapes at the joints to enter the rooms through an open window, or it escapes at the eaves and enters the roof space and bedrooms under the slates, owing to the higher temperature inside. All rain pipes ought to have their outlets placed over proper surface water traps.

When rain pipes lead to a rain tank, and when the overflow from the tank discharges into the drains and is untrapped therefrom, the same evil may result, as the drain air is free to pass through the tank and up the pipes, and in addition in its passage contaminates the water. The overflow should always be trapped by an efficient disconnecting trap, which should be so placed that the rainfall will keep it charged with water, and that it can be examined.

Surface Traps.—There are many unreliable forms in use, such as those named the Bell trap, Liverpool trap, "D" trap, and Box trap. They are all more or less unsafe owing to the small water seal, which may readily be evaporated, loose setting, and liability to choke, whilst the built chambers generally constructed underneath are often found to be leaky. Strong earthenware traps of the "S" or "P" shape, or of the type generally known in the north as gully traps, are those which should be used. The former are practically self-cleansing, whilst the latter are so formed as to retain sediment, and should always be provided with a cleaning tray or pan, and only be placed in positions where solids or grease are likely to pass into the drains if unchecked. Special grease traps ought to be provided under the waste pipes of scullery or kitchen sinks in hotels and large establishments, and these require frequent attention.

Inspection Chambers, when provided at the junction of branch drains and at changes in direction, are useful; but the tendency to place one at every curve and junction on a drainage system is carrying things to an extreme, because the expense, which ought to be a consideration with those who advise others as to outlay, becomes very serious, whilst drains now *can be* laid with easy curves, acute junctions, in straight lines, and to a very satisfactory state of efficiency. Each case ought to be decided separately.

Flushing Tanks.—These are useful in every case, but only necessary in sluggish drains, or where 9-inch drains (which are too large for ordinary work) have been laid.

Proper earthenware and metal flushing tanks are manufactured with automatic methods of discharge. A very useful and economical flushing tank, however, may be provided by having a strong barrel, with 3 or 4 inch hole, and wooden plug in the bottom. It can readily be taken to any desired point, such as a surface trap or inspection chamber, there filled with water, and thereafter, on the removal of the plug, the contents rapidly flow through the system. In practice, where some one is appointed to attend to it, the flushing barrel has been found to do as effective work as any other tank.

The internal sanitary work of a building, with the one exception of the W.C., should have no connection with the drains. The waste pipes from such fittings as baths, lavatories, and sinks should discharge on the top of a surface trap outside the wall, thus effectually severing the connection between the inside of the house and the drains.

The W.C. is thus the most important fitting. There are many forms of water-closet in use, but there are few of them which are sanitary—

i.e., which allow the entire removal of the contents of the basin. The pan W.C. is universally condemned as insanitary, owing to the excreta which is retained by the container; but it is surprising how many of these are in use all over the country. The pan apparatus is condemned by the Local Government Board, and on no account should any one occupy a house in which such an insanitary and offensive appliance exists.

The plunger valve, the ordinary valve, and the "flush out" are other forms of apparatus to which sanitarians have objection. The valve and valve chamber of the first get coated with excreta, and requires frequent cleaning, whilst the basin valve gets out of order, preventing the retention of water in the basin, and thus losing the flushing power, which is of so much advantage to the fitting, soil pipe, and drains. The ordinary valve closet has some of the objections of the pan W.C., and when the valve gets out of order its flushing power is lost.

The "flush out" W.C. has been much used in recent years, and is still; but although an improvement on the foregoing W.C.'s, it has some objectionable features. The velocity of the flush from the cistern is broken and reduced, whilst the basin and top of the trap are not self-cleansing. The "wash down" is perhaps the most sanitary form of W.C. at present in use; it is practically self-cleansing, and the flush from the cistern is directed vertically over the contents of the basin. The one undesirable feature about this closet is the joint between the earthenware of its trap and the soil-pipe or drain, but if a basin with "P" trap and metal flanged connection is provided, it is the best apparatus in use. There is no mechanism about the seat to get out of order; it can also be used for the discharge of slops, and as a urinal, when provided with a hinged seat. There should be no woodwork round W.C.'s; the earthenware is made in an ornamental form for this purpose, and thus the floor can be washed or cleaned all round.

Baths, lavatories, and sink waste-pipes should all be trapped by lead drawn traps close to the fitting, even although they discharge over surface traps, because the outside air flows freely through an untrapped waste-pipe owing to the warmer temperature within a building, and is rendered impure by passing over any decomposing matter in the surface trap outside, or by decomposing soap, etc., in the waste-pipe itself. The lead traps should all be provided with brass cleansing screws underneath them, to facilitate the removal of any extraneous matter which may be allowed to enter, and provision ought to be made for free access to them.

These fittings, like the W.C., are most sanitary when no woodwork encloses them, but when the lead waste-pipe or trap is liable to get battered they ought to be protected with a small movable boxing.

None of these fittings ought to be placed in a bedroom; a lavatory is often considered handy in such an apartment, but the convenience is out-balanced by the possibility of the fouling of the bedroom air, which ought to be as pure as the outside air.

DOMESTIC AND PERSONAL HYGIENE.

Poisonous Berries Again.

In consequence of several fatalities which have already occurred, we repeat our injunction of last month to warn children against eating wild berries, fruit, or fungi.

Beer and Nourishment.

It is a common delusion that beer being brewed from malt contains all the nourishing properties of the barley which yields the malt. As a matter of fact, these important properties are converted in the process of malting into sugar, which only maintains the warmth of the body and supports respiration, and into alcohol, the tendency of which is to make the body colder and to destroy healthy structures.

To Avoid Worry.

The avoidance of worry is very largely a question of self-control. The man who can prevent thought crowding on thought, and can take one at a time, is safe. The ticket-clerk at a crowded station would never get through his work if he allowed three or four persons to protrude their arms at once for tickets, and if he was oppressed by the thought of the scores behind who were waiting to be served while the train was coming in. But, thinking only of the destination and change of the one man at the window, he gets through his work rapidly, and without a sense of oppression. That principle is very widely applicable. Do not "take" anything for a sense of worry except rest, plenty of food, and fresh air, to put you into good "condition," and a resolution not to think in a general apprehensive way about your work, but to do it with concentrated attention, bit by bit, as it is wanted.—*Family Herald.*

Is Cheese Digestible?

Dr. Kleuze has recently answered this question by a most uncompromising negative. Various kinds of cheese were artificially digested with

gastric juice, and under the most favourable circumstances they took very nearly twice as long as the ordinary foods contained in a mixed dietary. The reason for this is probably the fact that, although cheese for the most part consists of casein, a highly digestible substance, it is so intimately mixed with various kinds of fats, which are not acted upon by gastric juice, that the gastric juice is separated, as it were, from the digestible casein by an indigestible envelope of fat. Therefore, if large pieces of cheese are swallowed, they can neither be digested by the stomach, nor are they passed on to the intestines, there to be digested by the intestinal juices, but they remain in the stomach and irritate it to such an extent that the symptoms of indigestion supervene, and *hinc illæ lachrymæ*. Our advice is, therefore, not to exclude cheese from the household dietary, but rather to be careful to eat it in small pieces and masticate it carefully in the mouth, mixing it as thoroughly as possible with bread or some other food substance, as mastication of cheese by itself is very difficult, owing to its tenacious consistence.—*The Hospital.*

Crime and Control.

From this standpoint the reporters deliver their judgment. "Crime is an evil impulse that ought to be controlled. The controlling powers are the cerebral functions of judgment and will." This is the only general proposition they offer. They proceed thence on physical argument. "Whoever is held responsible for his aberrations and his wrongdoings is termed and punished as a criminal." But "Whoever is considered irresponsible is no longer a criminal to be punished, but a lunatic against whose vagaries society takes pains to protect itself." So amongst civilised peoples both the punishment of the criminal and the incarceration of the hopelessly insane are, or ought to be, but different modes of self-preservation. By truly civilised men they say "the theory of revenge or retaliation has been given up long ago. Their minds are more bent upon the preservation of the physical and moral health of the community than on the spiteful annihilation of the rebel against the common welfare."

How to Sleep Well.

Doctors say that insomnia is on the increase among us, and many of them attribute the difficulty experienced in wooing sleep to the habit of late hours and abbreviated slumbers into which so many fall in this age of breathless haste and dash. An American physician asserts that nine hours out of the twenty-four should be passed in sleep by adults, though less are needed by the old. A cup of hot milk, sweetened and flavoured with freshly-grated nutmeg, is recommended as a sedative. The same authority reminds us that the senses do not fall simultaneously into slumber. After the eyelids have closed the sight, the sense of taste is the next to disappear, after which follow in their order smell, hearing and touch. The sense of smell is the last to awake, hearing being the earliest, after touch, to regain consciousness. As regards the muscles, the slumberous influence begins with the feet, and gradually works its way up to the centre of nervous action—a fact which explains the often experienced impossibility of sound sleep when the feet are cold or uncomfortably warm.

Baldness and Head-Gear.

The relation between baldness and the head-gear adopted by men is quite possible, upon the assumption that the compressing action of the tightly-fitting hats interferes with the blood supply of the scalp, and so tends to cause premature degeneration of the hair follicles. The usual pattern of "high hat," that emblem of urban dignity and rural ridicule, requires to be firmly fitted upon the head, otherwise every gust of wind would soon make sport of it, and despoil it of that "unruffled exterior" which every wearer of such a hat always conscientiously attempts to preserve. These remarks are suggested by reason of the fact that it has been alleged that the cause of the hair growth and absence of baldness in women is due to the freer blood supply to the scalp in them in comparison with men, and that the premature baldness in men depends not upon their head-gear, but owing to a natural difference between the heads of men and women in respect to the blood supply. This hypothesis, however, is by no means supported by the facts of the case. In short, there are no reasons whatever for supposing that the blood supply to the scalp in women is greater than in men. Why should it? Moreover, women never adopt anything in the shape of compressing head-gear—their hats are mysteriously fixed to their heads by elongated harelip-looking pins, transfixing the hats and hair. Premature baldness, again, is much more prevalent in towns than in the country, and the reason may be that fashion requires business men and others to don the "high-hat"; thus by the baldness they acquire an assumption of age which is of so much service to the younger members of professional communities. In rural districts, on the other hand, premature baldness is seldom seen, but neither is the "high-hat."—*Medical Press.*

SCIENTIFIC AND CURIOUS.

VALUE OF SOOT.—Fifty thousand tons of soot are taken from London chimneys in a year. It is not lost, however, there being a use for it for manure—about 1000 pounds to an acre, the value being estimated at £40,000.

BOYS WHO LOVE EXPLOSIONS, queer smells, and other small excitements of experimental chemistry will be interested in *Scientific Mysteries*, a shillingsworth emanating from the office of *The Chemist and Druggist*. Its pictures and letterpress combine to show how chemical, physical, and optical illusions may be produced.—*Evening News and Post.*

ECZEMA AND HATBANDS.—A medical man writes in the *British Medical Journal* that his attention has been drawn to some obstinate cases of local eczema occurring on the foreheads of men. He attributes these to arsenic and other irritating substances which he finds are used in finishing the leather linings of hats.

A NEEDLE'S WANDERINGS.—Mr. Oliver M. Stiger, a wholesale druggist of New York, had suffered for years from a violent cough and pains in the right lung, which he attributed to phthisis, but the doctors could find no organic diseases. Afterwards the pain began to move to his left side and back, and finally a needle, to which several inches of thread were attached, emerged under his right shoulder-blade. Mr. Stiger, who supposes he must have swallowed the needle, is now quite well.

INFLUENZA AND THE SPIRIT TRADE.—The prevalence of the influenza epidemic has had a notable effect upon the wine and spirit trade. The increase in the clearance of wine from bond during last month shows an advance of over 34,000 gallons as compared with the same month in 1890. The demand for brandy in the same period increased by 15,600 gallons. A similar demand for stimulants, though not so marked, was noted during the prevalence of the epidemic last year.

THE NATIONAL DRINK BILL.—Dr. Dawson Burn has done well to present the British nation once more with its annual drink bill. For though the bill is paid and duly receipted, it is a kind of document which should be framed and hung up in some convenient place for frequent reference. The sum spent in strong drink by the people of these islands during the twelve months of 1891 was very considerable, amounting as it did to one hundred and forty-one millions and a quarter sterling. The statement is almost as difficult to believe as an ecclesiastical miracle. It is, however, true, and we may therefore consider it in detail with some advantage. This grand total, divided by the number of the population, gives £3 15s. worth of beer, wine, and spirits for every man, woman, and child in the United Kingdom, or £18 15s. spent by every head of a family of five persons. Let us admit that beer, wines, and spirits, in proper quantities, are useful things. But when that is admitted, we must also grant that in excess they are dangerous poisons. If we exclude children, we have left an average expenditure of about four shillings a week for every man and woman of adult age. Now a pint of beer a day, or its equivalent in wine and spirits, is as much as the ordinary man or woman can use with safety to health, and the cost of a pint of beer is threepence, and the cost of seven days' pints of beer is one-and-ninepence. Even if there were no total abstainers to be deducted, the whole population is thus shown to be drinking at least twice as much as it should. But it is possible that a third of our adults are abstainers; and a third of the consumed alcohol is therefore to be added to the quantity drunk by only two-thirds of the population. It may be taken for granted that one of these two-thirds drinks no more than is compatible with health; and therefore the third that is left must take at least three or four times more than its proper quantity. In other words, a full third of our people are destroying their livers, kidneys, and brains with alcohol, and laying up a fine reserve of dropsies, heart diseases, dyspnœas, mental incapacities, and general miseries for the last half-dozen years of their lives. The doctor in a man is alarmed by this state of things, and the philanthropist in him is profoundly grieved. Medical men have done much to enlighten the public upon the scientific aspect of the question; and total abstainers, if somewhat fanatical in their methods, have urged home the moral factors. One cannot but ardently desire that thinking people will lay these facts and scientific deductions to heart, and will, each in his own place, act upon them. The late Dr. Magee said he would rather see England free than sober. But, as a matter of fact, neither England nor any other country can be free unless it is sober. —*Hospital.*

"IT is not this man, nor that man, but all men who make up mankind, and their united tasks the task of mankind."—CARLYLE.

IT takes two to produce a disease—the blow and the reaction, the irritant and the patient. When a man complains that wholesome food disagrees with his stomach we might retort, says Dr. Pye-Smith, that his stomach disagrees with his food.

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

"COME and dine with me to-morrow." Alfred: "I'm afraid I must decline; I'm going to see Hamlet." "Never mind; bring him with you."

OLD GENTLEMAN (in the Botanic Gardens): "Can you tell me, my good man, if this plant belongs to the arbutus family?" Gardener (curtly): "No, sir, it don't. It b'longs to the trustees."

BY feeding it on beef-tea, scientists at the University of Illinois have got the grip-bacillus strong enough to sit up and be photographed. The picture looks like "little beads on a fine string."

"WHAT is meant by the 'bone of contention'?" asked young hopeful, looking up from his book. "The jaw-bone, my son," replied his father solemnly—"the jaw-bone."

SHE UNDERSTOOD CHILDREN.—Probably one of the most startlingly unanticipated replies on record was that of the "mother's help," a young lady versed in all present day female attainments, who, in reply to the address, "I want a person of some experience in the nursery—do you know much about children?" cheerfully retorted, "Oh dear, yes, I've dissected a baby."

DR. SQUIRE, writing to the *Lancet* with reference to the epidemic of 1890, thus tersely sums up the initial symptoms of this disease in the following words, to wit:—"Cannot speak, got no voice; cannot walk, got no legs; cannot sleep, got too much head; cannot lie down, cough too severe; cannot eat, got too big a throat; cannot write, got nothing to say. Why? Influenza."

HEROIC TREATMENT.—"You have taken a severe cold," said the old family doctor; "and it seems to have settled in your throat." "Yes, doctor; you see I can hardly speak," said the patient, a vivacious, bright-eyed young woman. "Can you stand heroic treatment, do you think?" asked the doctor. "Try me?" "Are you sure?" "Yes, anything you like—medicine, mustard plasters, electricity, anything!" said she in a breath. "And you want to get back your voice?" "Yes." "It's heroic treatment, mind you." "All right; what is it?" "You mustn't talk at all for two days!"

PHONETIC spelling can hardly be carried further than it is in the following order sent to us, "2 ozs. of Setramggnisher."

AN advertisement reads:—"Wanted—A young man to be partly out-door and partly behind the counter;" and we ask, "What will be the result when the door slams?"

A DOCTOR rushed into a house lately and wondered that the nurse or mother were not in the apartment with a child just waking from sleep. However, being in a hurry, and having a vial with him, he half-filled a glass he found on the table, and gave the child a dose of medicine. Then he bolted to his buggy and drove away. Later in the day he learned that he had visited the wrong house, and that a policeman had him under observation as being insane.

AN EYE TO FUTURE NEEDS.—Small Boy: "Gimme a bottle of nerve-tonic."

Clerk: "For yourself?"

Small Boy: "Yep, for myself."

Clerk: "You don't look as if you needed nerve-tonic."

Small Boy: "Nop, guess not, but expect to in less'n a week. You see, I've taken lately to licking every boy in our part o' town, and ma says the very next boy I fight she'll shut me up in a room by myself, where I'll have to be civil. That time is sure to come pretty soon, and" (with a sigh) "I expect it to be awful wearin' on me."—*Pharmaceutical Era.*

THE following extract is taken from an old book entitled, *The Brevary of Healthe*, by Andrew Boorde, Physyche Doctour, Anno 1557. It pretends to give an infallible remedy for a very common complaint:—

"The 151 chaptre doth shewe of an evyll fever, the whiche doth combate yonge persons, named the fever burden (lazy fever). Among all the fevers I had almost forgotten the fever burden, with the whiche manny yonge men, yonge women, and other yonge persons be sore infested nowadays.

"1st. The cause of this infirmitie:—This never doth come naturally, or els by evyll and slothful bringing up. If it do come by nature, then the fever is incurable; for it can never out of the fleshe that is bred in bone. If it come by slouthful bringing up it may be holpen by diligent labour.

"2nd. The remedy:—There is nothing for the fever burden like *unguentum baculinum* (birch ointment)—that is to say, a stick or wand of a yard of length or more, and let it be as great as a man's finger, and with it anoynt the back and shoulders well morning and evening, and do this twenty-one days, and if this fever will not holpen in that time, let them beware of the waggyne on the gallows, and whyles they do take their medicine put no lubberwort in their pottage."—*Probatum est.*

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From Prof. O'BYRNE, F.S.Sc., F.Sh.S., Principal of the University and Civil Service College, Dublin.

DUBLIN, *September 12th*, 1890.

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The Health Messenger.

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The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

"BOIL your ice" is the humorous advice of Dr. Daremberg to Parisians in view of the advent of cholera.

* * *

IT is well known that freezing does not destroy the germs of typhoid fever, for both in Massachusetts and in London has the prevalence of that malady been traced to iced drinks and ice-creams. Cholera also may survive freezing, but cannot withstand boiling.

* * *

THAT cholera is a present and pressing danger no one will now dispute. The news of its spread in Russia is alarming, and the Paris epidemic, which is the true *cholera morbus*, may at any time be disseminated into fitting hot-beds.

* * *

ONE stray case, carried into a district where the water supply, the air, and the drainage system are not completely isolated from one another, or where cleanliness in its widest sense is not understood and practised, may spread death into thousands of homes.

* * *

HAPPILY we know the conditions under which the deadly infection thrives and spreads. In nine cases out of ten an impure water supply or an imperfect idea of cleanliness is all that it requires. Every household, therefore, should have its water filter, its sinks, its drains, and its general sanitary surroundings carefully examined, cleaned, and perfected without delay.

* * *

SEVERAL fatal cases of blood poisoning have recently been reported in the *Lancet* through the bites of gadflies. It is presumable that both the flies and the patients must have been in very bad condition to have made such consequences possible. At the same time more infection is carried by flies than is generally

known. When we consider that these tiny scavengers frequent in turn the filthiest refuse and the daintiest skin, we cannot be too particular to let them have no corrupting heaps near our dwellings from which they may carry poison to our bodies.

* * *

THE following vital statistics are not for a single week, but for the second quarter of 1892.

* * *

VITAL statistics for quarter ending July 2nd:—

CITIES AND BOROUGHS.	Population.	Persons to an Acre.	Birth Rate.	Death Rate.
33 Towns.....	**10,188,449**	**34.8**	**32.9**	.
London	4,263,294	57.1	31.4	18.9
West Ham	217,113	40.3	37.9	15.6
Croydon	106,152	11.8	28.1	13.1
Brighton	116,424	46.3	26.8	14.0
Portsmouth	163,667	37.9	29.2	14.6
Plymouth	85,610	58.3	30.0	17.8
Bristol	223,592	48.3	30.6	20.5
Cardiff	136,181	18.5	36.8	17.1
Swansea	92,344	15.5	35.9	18.3
Wolverhampton....	83,519	24.6	34.5	20.7
Birmingham.....	483,526	39.1	34.2	21.3
Norwich.....	102,736	13.7	31.7	17.3
Leicester.....	180,066	45.2	34.9	19.5
Nottingham.....	215,395	21.6	31.3	16.7
Derby.....	95,908	27.8	31.9	18.8
Birkenhead.....	101,264	26.3	35.7	18.3
Liverpool	513,790	98.6	35.7	23.7
Bolton.....	116,261	48.4	33.7	20.8
Manchester.....	510,998	40.0	35.7	24.6
Salford	201,058	38.9	36.9	22.6
Oldham	134,221	28.4	30.6	22.7
Burnley	90,589	22.6	34.5	20.3
Blackburn.....	122,2 8	17.5	31.5	20.2
Preston	109,038	27.1	34.6	22.0
Huddersfield.....	96,599	8.2	22.2	18.7
Halifax	84,097	22.3	28.1	21.8
Bradford	219,262	20.3	29.0	18.1
Leeds	375,540	17.4	35.3	18.7
Sheffield.....	329,585	16.8	37.3	21.0
Hull	204,750	25.9	37.1	16.7
Sunderland.....	132,839	43.8	39.0	22.4
Gateshead	88,588	28.4	37.5	17.1
Newcastle	192,205	35.8	36.4	19.5

* * *

THE great American "gold cure" for drunkenness has shared the fate of most "specifics." Dr. Keeley, the inventor and human trumpet of this system of cure, arrived in this country, and strove to float a company of £150,000 to acquire the secret and right to practise it in England. But our English scientists and philanthropists, before paying the inventor £110,000 in cash, took the precaution to investigate the nature of the remedy. They found that the "gold cure" contained no gold, and its history failed to prove it a cure. Could Dr. Keeley, or any one else, invent a real remedy for alcoholic craving, he might earn not only money, but a monument. But what after all is inebriety? It is a morbid condition of the body induced by habit, and as Dr. Norman Kerr remarked at the meeting where the Keeley mixture was exposed—"by the way, it contained twenty-seven per cent. of alcohol"—the inebriate must exercise a certain amount of will-power, when once the action of the poison has been removed from the system by total abstinence, to prevent its recurrence. In other words, the cure is partly physically, partly moral.

THE STAFF OF LIFE.

(Continued.)

BY THE EDITOR.

SHALL we, then, submit to the physical degradation consequent upon eating white bread, and look forward to the future man as a toothless, hairless individual, deficient in nerve, bone, and brain; or shall we resolutely return to the primeval days when the food of primitive man consisted of "roots, fruits and vegetables, shell fish, and—one another"?

"Nay, nay," cries the despairing reader, "either prove your terrible accusations against white bread by chapter and verse, by statistics and authorities, or leave us to eat our emasculated bread in peace, while yet we have teeth to chew it. And if the indictment be brought home, then show us some better remedy than a return to savagery. We decline the husks and the bones—because we lack strength of tooth, and jaw, and stomach."

Very well, it is quite true that there is many an unfounded prejudice, and this against white bread may be entirely unfounded. We shall therefore first show the chemical composition of bones, teeth, hair and nails, and other solid constituents of the human body, then we shall show the composition of the natural grain foods in as far as they contribute to the building up of these constituents. We shall afterwards show the analytical difference between whole wheat, fine flour, and bran. Finally, in a succeeding number we shall suggest a compromise between emasculated civilisation and the return to savagery.

Firstly, then, let us consider the composition of the human skeleton. Of necessity it is composed of substances which are not readily

soluble, otherwise the system might collapse like a house of cards after an extra deep draught of water or other generous fluid. It is principally built up of phosphate of calcium, carbonate of calcium, phosphate of magnesium, with (amongst others) small quantities of fluoride of calcium. This latter substance is found in somewhat larger proportions in the enamel of the teeth than in the bones; and Sir Jas. Crichton Brown, in a recent address to an association of dentists, suggested that the widespread early decay in the teeth was probably in some measure due to the rejection from food of the outer husks of grain, in which the fluoride is most richly if not wholly present.

Now if these solid constituents of the skeleton be absent, from the food of the young especially, or are present in too small quantities, it is absolutely certain not only that the skeleton will not attain its largest possible size, but that the bones, teeth, and other components will not have that firmness and solidity of structure which would otherwise have been possible. If, for instance, during the period of tooth development there be not supplied in the food a sufficient proportion of fluoride of calcium, the enamel of the teeth will not attain its maximum hardness, and will therefore be more open to attack by acids and by bacterial agencies. The phosphates and other mineral salts are necessary not only during childhood but during the entire life, as they are constituents in one form or another of the other tissues, such as brain, nerve, and muscle, and are always present in healthy blood.

Now, the principal source whence the body derives its mineral constituents is the vegetable world, all edible grains and vegetables containing them to a greater or less extent. (We have already pointed out that the bones, which contain the main supply of phosphates of animal origin, are not used for human food.) In the process of cooking vegetables, which contain mostly the soluble or alkaline phosphates of soda and potash, these salts are dissolved or boiled out, and the cooked article would on that account be very insipid, were it not that we replace them by the addition of common salt or chloride of sodium. This substance, however, is by no means a perfect substitute for the other salts which we remove, as, although it is a constituent of the blood, it does not supply what is required for the restoration and building up of the bones, brain, and nerves. We therefore depend most largely for our mineral sustenance upon the grains which form the "staff of life." Of these grains, oats are the richest in mineral salts, containing as they do one-fifth more than wheat, which is next in value. Were we able to use whole wheat for our daily bread, we should have a satisfactory diet, but partly because of colour and unsavoury taste, partly because of indigestibility, we reject the bran and outer coatings of the grain. By so doing we alter materially the composition of our bread in regard to its bone-forming and other properties, as will be seen from the following figures:—

	Amount of Mineral matter.
English wheat (whole grain)... ...	1.7
Fine wheat flour	0.7
Wheat bran	6.0

We see from this that the frame-building value of the wheat is reduced to less than one-half by the process of refining. The importance of this can hardly be over-estimated when we reflect that bread is the staple article of food for the millions every day of the year. Oatmeal is out of fashion, and the other food-products rich in phosphates, such as maize, peas, and beans, are only brought into occasional use.

It is equally true that to look for a return to whole meal bread, either by the masses or the classes, is out of the question. Not only are the taste and colour unappetising, but the indigestible fibrous matter acts as an irritant upon the mucous membranes of the stomach and intestines. Small quantities of coarse or bran bread are frequently recommended as a stimulus to intestinal action, but its very efficacy depends upon an irritant quality which can easily be carried to a hurtful extent.

Where then lies the remedy?

(*To be continued.*)

PREVENTION versus CURE.

(*Continued.*)

By A. Blair, M.B.

Nowhere is attention to this regulated exercise of more importance than in mining communities, where so large a portion of the population pass many hours in every twenty-four working or walking in a cramped position, with the head bent forward on the chest, a posture which has a tendency to produce much more disastrous results than those which proceed merely from the constant stretching of the long muscles of the back. The result I refer to is the tendency to the development of pulmonary consumption, a disease which appears to be assuming the proportions of a veritable scourge among us. Most people are already aware that the mischief in the chest which accompanies consumption almost invariably begins in the upper lobes, if not at the very apex of the lungs.

The recognised explanation of this is: not that here the blood supply is poorer, or that this portion is intrinsically in any way different from any other portion of the lung, but simply that it does less respiratory work. The lung is here very much thinned away, and lies under, and reaching to a slight extent above, the collar-bone. In quiet respiration—as in sleep—the action of this upper part of the chest is practically nil, the collar-bones, especially in the case of males, even in the erect posture, being never raised at all, except in deep inspiration, and consequently the portion of lung lying underneath is little if at all inflated. Foreign particles, therefore, finding their way into this part stand a good chance of not being expelled, but setting up irritation there, lead to the formation of little broncho-pneumonic areas, which either break down, and thus cause destruction of lung tissue, or in a predisposed subject they form a suitable nidus for the development and growth of the tubercle bacillus.

In the case of any one who passes a considerable portion of his time with his chest doubled up and his head bent forward on his breast, it is manifest this is a result much more likely to follow, and it is a recognition of this fact that has called so much attention to the value of dumb-bell exercise in the prevention and early treatment of consumption, especially in those who have a tendency to stooping. The swinging of dumb-bells necessitates the arms being raised above the head, and this means that the large muscles which pass from the front and upper part of the chest to the bone of the upper arm are put on the stretch, the upper segment of the chest is forcibly raised and expanded, and the lung lying underneath fully inflated, while the whole chest is broadened and deepened. But the practical question arises, How is this regulated exercise to come within the reach of the population, male and female, of the community? Only by the more general establishment of public gymnasia, fitted with dumb-bells, hoops, crossbars, barricades, flying trapeze, and all appliances for the exercise of particular groups of muscles in rotation.

One other important and fundamental error which has much to answer for in the promotion of disease, especially on our cold north-eastern coast, is the clothing which is worn next the skin. Surely it requires no abnormal amount of common sense to teach us that the article most suited for the inmost covering, and intended by nature and providence for use, is a soft, thick, non-conducting material like flannel or wool; yet it is a lamentable fact that one constantly finds females especially, women up in years, women who have never enjoyed robust health, but who have borne large families, and who must in pursuance of their ordinary avocations be almost daily bathed in perspiration, still sufficiently demented to persist in the use of cold, clammy, flimsy linen or cotton, though sane enough in other respects. And why is it so essential that flannel or some such material should be worn next the skin? Simply to protect it in its function, and to prevent *chill*. How many deaths do we daily read of as being due to having "caught a chill"? They are not

deaths from chill, but from the results of chill —viz., internal inflammations, pneumonia, bronchitis, peritonitis, nephritis, cystitis, etc. A skin when heated—which means that all its blood-vessels are dilated, and its sweat-glands in action—but unsuitably protected, is exposed to a cold atmosphere. The action of cold is to cause immediate contraction of all the vessels in the skin, the blood which they contain is necessarily driven into internal organs, setting up congestion there, and congestion is but the first step to inflammation. And to push the subject a little further back, when, with the day-dawn, in the interests of infant life and mankind, fashion and elegance will no longer hold sway, and our babies, instead of at present in purple bows and fine linen, will, in rational deference to their tender skin and unfavourably changed circumstances, be swathed from the moment of birth entirely and absolutely in flannel.

(*To be continued.*)

"DIGITI MINIMI DECESSUS.—'*Man is losing his little toe . . . and can do without it.*'—Mr. Clement Lucas, in his opening lecture.

"If thou must go, thou feeble, foolish digit,
Fain would I speed thy slow degenerate way!
I daily feel a disagreeable fidget
Whenever I've occasion to display
Thy doubtful outline, and thy form chaotic
(Born of a taste in boots, perhaps erotic).
Thou art a shock to my æsthetic sense,
And offerest no kind of recompense
In way of use; of every function shorn,
Except to act as basis for a corn.
When thou art gone I'll still maintain my grace,
Still walk erect wherever I may be;
Still I'll belong to the athletic race,
Waltz with the fair, and kick mine enemy!
So *pace* Schopenhauers, and *pace* Mallocks
When I've acquired a hypertrophied hallux,
To monodactyle type thus simplified,
Life shall be simpler too, and so—beatified.

When future science forgets thee in thy prime,
Methinks a great mind from a northern clime
May then discuss thy remnants, and declare
He finds a true *prophetic organ* there!
—*Guy's Hospital Gazette.* F. G. H."

"AMONGST the varied counter experiences related from time to time in your journal," writes "Yorks," "I have not come across the like of an eminently-respectable customer who was bitten a few days ago by a dog, and came to my shop to have the wound 'catechised'!"

PUBLIC HEALTH PAPERS.

(*Continued.*)

By CHARLES J. RUSSELL MCLEAN, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Fellow of the Society of M.O.H.; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. 2.—Ventilation.

VERY little has been said about the detection of impurities in the air as regards their total quantity, but the senses themselves will show when the air of a room is stuffy or foul either by headache, faintness, or by actual disagreeable odours. De Chaumont, in 473 experiments, showed that the sense of smell gave a fair idea of the amount of impurity when compared with actual calculations.

In this chapter I purpose showing various means for remedying defective ventilation, but before doing so I must make two statements. *First*, as regards the proper amount of *cubic space;* and *second*, the requisite quantity of *air* required for each individual. In Chapter I. it was shown that the CO_2 (carbonic acid) in our rooms should not exceed .06 per cent. Now, to keep it at or below this we must have—

1st. Space enough to start with, and by numerous experiments it has been shown that the initial space should be 1000 *cubic feet per head.*

2nd. We must have a certain amount of air circulating through the room, apart from the amount which may be present to start with. This, it has been estimated, should be 3000 *cubic feet per head per hour.* Let us take a simple example. Suppose we have a room which holds 1000 cubic feet of air, and we put a person into it at a certain time. Well, to keep the air pure enough, and the CO_2 under .06 per cent. during the next hour, we must have the air in the room changed twice during that time—*i.e.*, the person starts with 1000 cubic feet of air (which itself only suffices for twenty minutes), and has 2000 cubic feet of air passing through the room

during the hour, in all 3000 cubic feet of fresh air per hour. In sickness 4000 to 6000 cubic feet per head per hour may be allowed.

Of course few rooms or houses come up to this degree of perfection, but I have mentioned these figures as showing what is meant by a proper and efficient fresh air supply. And taking 1000 cubic feet as the standard space, we find that our soldiers in barracks have only 600 cubic feet allowed. That common lodging-houses are passed with 240 to 300 cubic feet, and even less, and that, worst of all, the Education Department only demands 80 cubic feet per child in schools, which I consider very unjust, as children require, in my opinion, as much space and fresh air as adults, and we all know how badly some schools are ventilated, and how stuffy and unhealthy they must be for the scholars and teachers constantly present in them. In hospitals, or where there are sick, the authorities generally aim at even a larger supply of air-space—viz., 1200 to 2000 cubic feet, and in infectious hospitals up to 4000 cubic feet of air-space per head. Nor must it be forgotten that at night, when we have three or four gas-burners lighted, that they are polluting the air as much, nay, more than an equal number of people would do.

I have said that the air in a room should be changed three times an hour, and this is practically the limit that can be borne; for if we change the air oftener, then we feel draughts. In order to avoid draughts, the current of fresh air entering should not travel faster than about one and a half feet per second.

Then we must not forget that there must be *inlets* provided—*e.g.*, windows; and *outlets* to carry off the vitiated air—*e.g.*, the chimney.

Ventilation may be effected in two ways—

I. Naturally. II. Artificially.

I. *Natural ventilation* is brought about by three main forces.

1. *By movement of air due to inequality of temperature.*—This inequality of temperature is an important factor in the natural production of ventilation, and, without entering upon technical terms, I will merely state that, due to the law of the expansion of gases, the "warmer air gets the lighter in weight it becomes," and therefore it tends to rise. This explains the fact of the warm, impure air we expire, ascending and rushing up the chimney, due to the heat from the fire. Then of course as "nature abhors a vacuum," cold air rushes in by the doors and windows to fill up the space.

2. *Diffusion* only slightly aids ventilation; but

3. *Winds* are a great means of producing good circulation of air. Pettenkofer (to whom we owe so much for valuable information we have on all subjects of public health) has shown that the wind will blow through nearly all kinds of building material—varying directly as regards the porosity—and in one experiment in which he enclosed a brick in an air-tight box, he found that the force of the breath deflected the flame of a candle on the other side, or even blew it out, if the current of air was collected in a small channel.

The action of the wind may be taken advantage of in the following methods for ventilating a room:—

1. By blowing directly through—*e.g.*, in a hospital ward with windows open on both sides (perflation).

2. By its aspirating action in blowing across a chimney-top air is drawn out of the room.

Windows may be used in many ways—*e.g.*,

1. By opening the top and bottom sashes (every window should open at the top as well as at the bottom, which is a point often neglected by cheap builders).

2. Double panes in the top sash—the outer pane open at the lower, and the inner pane at the upper border, the air passing in between.

3. Dr. Bird's plan is a good one, and every bedroom in England should have it adopted. It is cheap and easily applied by any one, as it only requires the lower sash lifting, and a piece of evenly-planed wood two or three inches deep inserted in the opening under the lower sash,

which is then shut down; the fresh air then pours into the room in a gentle stream *between the sashes*, and directed towards the ceiling.

4. Other methods are by using perforated panes, Boyle's spring ventilators, screens, etc.

(*To be continued.*)

DOMESTIC AND PERSONAL HYGIENE.

Beauty Culture.

It is a physical as well as a moral fact that it is in the power of every person to improve his own beauty as well as bearing, by a constant control of passion and temper, and a deep and constant cultivation of the intellectual faculties, pure affections, and the moral nature.

Eating between Meals.

Allow the child to eat enough at each meal to satisfy its hunger; more than this will do harm. Eating between meals is responsible for many of the gastro-intestinal disorders of early life. The habit should never be allowed to be formed, and, if it exists, should be broken as soon as possible.

The Fireplace in Summer.

Never stop up a fireplace in winter or summer, where any living being stays, night or day. It would be about as absurd to take a piece of elegantly-tinted court-plaster and stop up the nose, trusting to the accidental opening and shutting of the mouth for fresh air. If you are so fortunate as to have a fireplace in your room, paint it when not in use; put a bouquet of fresh leaves or flowers, or branches, in every morning, if you please, or do anything to make it attractive, but never close it.

Diet for Athletes

among the Greeks was a very different thing from that prescribed for our prize-fighters. The Greek candidate for a prize at the games was put on a diet of new cheese, dry figs, boiled grain, milk and warm water, but allowed no meat whatever, and on this apparently simple diet great efficiency in athletic sports was attained.

Children and Darkness.

A medical writer says:—If mothers notice that the brains of their little ones conjure up uncanny sights and thoughts from the shadows of a room more or less dark, let the light burn brightly. To force a child to become accustomed to the darkness is a grave error, if its nervous system is so organised that this forcing is productive of fright. The nervous system of a child is a very susceptible organisation, and the deleterious impressions made upon it will often make their influence felt throughout its whole after-life. If the child asks for a light under such circumstances, *do not refuse it.*

Butter Milk.

Butter milk is an article of diet which is not sufficiently appreciated by the public. It is generally regarded as not containing much nutrition, but this is an error, as in the making of butter only the fat is extracted from the sweet milk, while the nitrogenous proportion and the sugar remain pretty much the same. It also frequently happens that small particles of butter are left in the milk, and when this is the case it is often as valuable a food as sweet milk. It is of use when there is a deficiency of other kinds of nitrogenous food, as, *e.g.*, beef and mutton.

Given a Girlhood Developed

and invigorated by bodily exercise normally pursued—a girlhood in which anæmic, neurotic, or musculo-degenerative perversions, fatal to sound maternity, are guarded against, there is no limit to be placed, according to Professor Mosso, on the mental education or professional acquisition that must fit her for her beneficent part in the social organism. Where eccentric aspiration may induce her to attempt the work of the male sex, experience rather than antecedent prohibition will put the more effective veto, her success in such a line, when attained at all, being of so exceptional a kind as to yield no incentive to imitation. The truth is, education, as opened up to woman, is in its initial and tentative stage, when all manner of vagaries are to be expected—vagaries, when not artificially encouraged, best left to cure themselves. As our contemporary, the *Lancet*, points out, within the next generation experience will have taught its salutary, irrefragable lessons, and we shall find woman concentrating her energies and her newly-acquired culture on paths she is best fitted to tread, leaving man to those in which nature and Providence have prescribed him his proper work.

The Use of Salt.

In all the range of the household materia medica there is no remedy half so valuable as common salt. Heated dry and applied to the outer surface over the seat of inflammation or congestion it will give almost instant relief; while applications of a strong hot solution of salt in water or vinegar acts like magic upon toothache, earache, neuralgic headache, and all that brood of distressing ills. For catarrhal affections and a sore throat a spray of warm water

and salt is one of the standard prescriptions of the "nose and throat" specialists. For hay fever and those other slighter forms of nasal sensitiveness that induce a constant sneezing, there is no remedy more quickly palliative than the vapour of heated salt and alcohol. Persons with tender feet will find them growing much less sensitive day by day if they treated them to a daily brisk rubbing with cold salt and water. Beside all this, salt is good for the stomach. A pinch of it in hot water, taken either just before or just after a meal, is a valuable aid to digestion; and a cupful of very hot salt water will sometimes quiet the most persistent nausea. Anything more that salt will do? Yes, the most grateful of all—cure the toothache sometimes. A little girl who was told to put some in an aching tooth says, "I just put in a little salt, and in a few minutes I felt the naughty aching nerve curl right down and go to sleep."

The Proper Way to Sit.

ALWAYS sit as far back as possible in the chair, so that the lower end of the spine shall be braced against the back of the seat. If this back is straight, the shoulders will also rest against it; if not, they will have no point of support, and it will be found that they do not need it. This position makes no strain upon the ligaments of the spine. It allows a proper position of the shoulders, consequently of the chest, consequently of the lungs, stomach, and every other organ of the body.

Their work is carried on naturally and comfortably, as is also the circulation of the blood, which in a wrong sitting position is seriously interfered with. With the feet resting squarely upon the floor, the hands resting easily upon the lap, perfect equilibrium, and, consequently, perfect rest of the body is secured. There is no strain upon any part of the body; no muscle or organ is required to do more than its legitimate amount of work. The arms should never be folded; for this position not only causes a strain upon the spine, and all the other evils already referred to, but, in addition, places the weight of the arms upon the stomach and the diaphragm, thereby increasing the labour of digestion and respiration. Placing the hands behind the back, or folding the arms behind the back, if possible, is a good attitude to take occasionally, giving, as it does, the fullest expansion to the whole upper part of the body.—*Science Siftings.*

The Philosophy of No-Clothes.

M. KROHN, a well-known author on scientific subjects, has at last discovered a great secret, though, we fear, he will not obtain many practical converts. We say "practical," because M. Krohn's remedy for the cure of all maladies to which flesh is heir is too barbaric, even for Russia, and the probability is that all, or at any rate most, believers in the learned gentleman's theories will draw the line at stripping themselves naked with their Réaumur thermometer something below zero. M. Krohn has discovered the primary cause of all disease, and this he tersely sums up in the one word "clothes." Clothes are the direct cause of small-pox and scarlet fever, typhoid and influenza, cancer and toothache, *delirium tremens* and consumption—in short, every malady under the sun. About a century ago a fanatical sect sprang up in England and flourished exceedingly under the title of "Pre-Adamites." After much study, they arrived at the conclusion that it was wicked to wear clothes, and accordingly they defied the watch and triumphed under persecution, all the while *in puris naturalibus.* Yet we may fancy that the "Pre-Adamites" have long since died of agues and colds, contracted at the altar of their meeting-house, the sky, for, like the Druids, these religionists worshipped in the open air. But perhaps M. Krohn will say that he does not propound his theory for the benefit of fools and idiots, and that there is moderation in all things. If so, it would be interesting to know how many clothes it will take, in his opinion, to raise a moderate fever, and how many overcoats to cause a stroke of apoplexy.

Drunkenness and Crime.

HERE are the chief details of the new Government Bill for the suppression of drunkenness in Germany. Amongst other provisions, publicans will not be allowed to turn drunken persons out of their houses without providing for their safe conduct home, the expenses to be paid by the drinkers. The Bill provides for the appointment of guardians to habitual drunkards. The measure is likely to be much opposed. But it is a Government Bill, and the Emperor's interest in it will count for much in the attention it will receive. Sir Lyon Playfair has induced Sir Henry James to try to define the bearing of the element of drunkenness in criminality. Even Sir Henry James has found it difficult to do so. The following is a summary of his conclusions:—

"In determining the legal character of the offence committed, drunkenness may be taken into account—1. Where it has established a condition of positive and well-defined insanity. 2. If it produces a sudden outbreak of passion occasioning the commission of crime under circumstances which, in the case of a sober person, would reduce the offence of murder to manslaughter. 3. In the case of minor assaults and acts of violence it never can form any legal answer to the charge

preferred, but it may either aggravate or mitigate the character of the act committed—probably the former. 4. As to the effect that should be given to drunkenness when determining the amount of punishment to be inflicted, no general rule can be laid down. Its existence may be considered, and may tend either in the direction of increasing or diminishing the punishment imposed. This is all the help I can give you. I am afraid I have done but little to solve the problem you have placed before me."

One thing seems clear in the tendency of civilisation, that drunkenness itself should be made more definitely an offence than we have been accustomed to regard it.—*Lancet.*

WHO IS RESPONSIBLE?

At the recent Assizes in Newcastle, a gentleman sued a builder for damages for having, as was alleged, fraudulently sold him a house as in a safe sanitary condition. Plaintiff stated that when he bought the house from the defender he was informed that the drains were trapped off from the sewer and were otherwise perfect. Latterly the members of his household had been attacked by typhoid fever, which, the doctor stated, was the result of bad drains. In consequence of this he had an examination and report made, which resulted in the discovery that the public sewer was emitting its vapours in the dining-room, hall, and cellar, thus poisoning the atmosphere of the whole house, and thus arose owing to the absence of a trap and to the existence of serious defects at the base of the soil pipe.

Mr. R. L. Hay, sanitary specialist, testified that he discovered the defects, and that the defect at the soil pipe was the result of bad workmanship, two pieces of slate being laid round the draw pipe, which had its flange cut off, a method which should never be allowed. Mr. Thorburn, C.E., confirmed the evidence of Mr. Hay. The defender denied responsibility. The jury, after long deliberation, found that the defender made a misstatement by which the plaintiff was induced to purchase the house, but that he did not make the misstatement fraudulently. The result of this is that although the lives of the occupants of the house were endangered by defective sanitary work, still the builder is not in all circumstances legally responsible.

NOTICES OF BOOKS.

"Alcohol and Public Health."—Sooner or later—generally later, the cynic tells us—truth prevails. Whether it be a private character or a public cause, time distils off the essence or spirit, leaving the grosser and non-essential particles in the grave of prejudice. Unfortunately, the truth is easier to reach when it no longer concerns us. We may now look with critical and balanced eye upon Cromwell and Charles, or upon mediæval catholicism and puritanism; but the nearer a question touches our time and our conduct the more difficult is it to judge of it dispassionately and accurately. What is known as the "Temperance Question" is ever with us; but so nearly does it touch our habits, our interests, our feelings, that to stand on impartial ground is all but impossible. Habit and association are perhaps greater factors than truth and goodness in deciding which side we shall take.

The aspect of the question which concerns the *Health Messenger* is naturally that which relates to health, and the book before us* may almost be taken as a handbook of the subject. There is no doubt which view of the case Dr. Ridge adopts, but it is equally clear that rigid examination has accompanied him in every step of the inquiry. In the preface he modestly states that the facts he has collected will perhaps "convince many that there is a good deal more to be said in favour of total abstinence than in favour of drinking alcoholic liquors." He has "long had the conviction that unless the practice of total abstinence be physiologically right it cannot be morally binding . . . but, if physiologically right, the force of the moral argument must be irresistible."

A very interesting table, compiled from the forty-fifth annual report of the Registrar-General, shows us the percentage of deaths from various causes which occurs in several occupations, such as innkeepers, costers, travellers, bakers, grocers, etc. In order to read the table correctly it should be understood that the figures are deduced from an average of 100 for all males. From alcoholism the averages

* *Alcohol and Public Health.* G. J. James Ridge, M.D., B.S., B.A., B.Sc., Lond.; Medical Officer of Health, Enfield. (1892. London: H. K. Lewis, 136 Gower Street, 2s.)

are—for innkeepers, 550; commercial travellers, 230; grocers, 100. From liver diseases—Innkeepers, 614; commercial travellers, 156; grocers, 133; and so on for other diseases and other occupations. We have previously had occasion to mention the real and the expected deaths in the temperance and the general sections of the United Kingdom Provident Institution. Over a period of twenty-five years the percentage of the expected deaths which really occurred was in the temperance section 71, and in the general section 96, showing an enormous difference in favour of the former.

Apart from the deductions, the collection of statistics would afford to either the temperance or the general public food for grave thought, and we recommend it to the serious student of social life. It is a book of science, of original experiments, as well as statistics, and quite free from the harassing descriptions so distasteful to over-respectable and æsthetic people, of the heartrending and widespread misery which, although not included in tables of sickness and death, insanity and crime, is perhaps the saddest and most deplorable effect of alcoholic excesses.

Illustrated Lectures on Nursing and Hygiene. By R. Lawton Roberts, M.D., D.P.H., second edition. (1892. London: H. K. Lewis.)—In a periodical so limited (at present) in space as the *Health Messenger*, it is impossible to enter so amply and minutely into subjects as we could wish. Our articles are for the most part short and practical, being intended for general and immediate absorption by the intelligent "all and sundry." Some of our readers, however, having acquired a taste for, say, nursing, may wish to prosecute the study more deeply and fully than we place it before them. We therefore from time to time have pleasure in noticing new books on health subjects, and indicate by notice or advertisement what works may with advantage be perused. Dr. Roberts' "Lectures on Nursing and Hygiene," which form a companion volume to his *Ambulance Work*, are almost too ample for the ordinary home nurse whose services are only occasionally required for tending the sick. At the same time knowledge is easily carried, and those who wish to be fully equipped would do well to go systematically through this book. The instructions regarding the care of the nurse herself are highly interesting, while the details of nursing in almost every conceivable circumstance are clear, useful, and, we need hardly say, quite up to date in theory and practice.

Digestion and Diet. By Thomas Dutton, M.D. (1882. London: Henry Kingston, 82 High Holborn.)—It seems only the other day since we reviewed Dr. Dutton's *Indigestion Clearly Explained*, and we presume the success of that work must have tempted the author thus early again into the arena. This companion work is distinguished by great clearness and simplicity of language (although the Queen's English has occasionally suffered through hasty composition), and would be quite a valuable addition to a household library. The philosophy of diet is admirably illustrated by examples of practical cookery, and we cannot but think that every young housewife would confer a boon upon her home and husband by reading the book. Love may be blind, but he is not likewise devoid of taste and smell; and if the nymph of the dinner table does not wish his eyes to be opened, his savoury senses should be skilfully catered for. The author passes in review every ordinary article of diet, and a number of uncommon ones as well, each being the subject of happy and useful instruction. One matter we take exception to, and that is the author's frequent and somewhat commendatory references to his former work, which we think are not always called for. We have also an objection to the somewhat loose way in which alcoholic beverages are recommended, without regard to the danger of alcoholism.

SHE: "Dear, what is the literal translation of *similia similibus curantur?*"

Dr. Al. O, Pathe: "Simple cures for simple people."—*Pharmaceutical Era.*

A SHAKE-ME-TOGETHER. — The following original memo. was handed me by one of our local chemists:—"Can you send me by bearer a drink to shake-me-together for the next five hours. In consequence of concealing a quantity of blended liquors about my person last night I feel like a diseased carrot to-day, and can't face an impatient public without your help."—*A.J.P.*

HOUSEHOLD DANGERS.

(*Continued.*)

By R. Laing Hay, Consulting Sanitary Engineer, Newcastle-on-Tyne.

The water supply of a building is one of the important parts of its sanitation, but it cannot be dealt with here in detail. The supply for culinary and dietary purposes, where the water is taken from a company's main, should be delivered at a tap over the scullery or kitchen sink direct from the main service-pipe without the intervention of a cistern. If the water supply is intermittent, this of course cannot be arranged. When there are other taps over the sink, a brass engraved plate should indicate that the one direct from the main is for drinking and cooking purposes, to prevent mistakes.

The main cistern should always be accessible, but in far too many instances it is difficult to get to it, and there is no light provided, so that the examination and cleaning are neither carried out so often, nor in such a manner as they should. In new buildings greater attention should be given to the position of the cistern to avoid these objections. Each cistern ought to have a cover to prevent the entrance of dust and dirt, and in every case, even with a cover, it is advisable to clean the cistern every three or four months.

A very serious defect is sometimes found in connection with the overflow of cisterns. When the overflow-pipe discharges into the soil-pipe or drain, the foul air has not only admission to the house, but will certainly pollute the water, and even when such a pipe discharges over a surface-trap outside, the impure air from decomposing matter in the trap may pollute the water. Sometimes cistern overflows discharging as described are trapped, and are then supposed to be free from the evils referred to, but it is forgotten that the overflows are only in use at intervals, and, indeed, if the ball tap is in order, an overflow may not be in action for years. A trap is therefore of no use. Each cistern overflow should discharge openly through an external wall or over the slates, and should have a small hinged flap on the outlet to prevent the entrance of cold air, and on no pretext whatever should it otherwise be arranged.

These remarks also apply to rain cisterns, as the identical improper overflow arrangement exists in very many instances, especially in country houses, so that when one is provided with soft water to perform his morning ablutions he may actually wash with water contaminated with sewer, cesspool, or drain air.

The arrangement for the removal of the ashes and other refuse should be paid attention to. There is no better system in towns than that adopted by the Corporation of Newcastle, who provide tubs at the request of the householder, and frequently remove the contents, but in many places this cannot be arranged, and an ash-pit is provided. As the sun and rain cause the contents very speedily to decompose, it is most desirable that ash-pits should be covered over, and in that case they should have means of through ventilation.

It may be interesting to those who have some anxiety about the state of their dwelling to indicate a few of the commonest defects which sanitary engineers discover.

(1.) *The absence of a disconnecting trap*, which is the first necessity for safety and health, even though a well-known architect and a borough engineer stated in the witness-box the other day that such a trap they did not consider necessary. To ventilate the public sewer is necessary, but to do it in such a way, through a private drainage system, that sewer air may enter the house and endanger life, is surely the acme of folly.

(2.) *The connection between the soil-pipe and drain.*—In 80 per cent. of the buildings first examined this defect is found. Its seriousness lies in the fact that it is so close to the foundations of the building that air from the drains readily passes inside. Sometimes the joint is made with slates laid on the top of the earthenware pipe and fitted round the soil-pipe—a manifest piece of jerry construction done by scores of builders, and too often approved by architects. Again, it is made by fitting the metal pipe into an earthenware bend. The latter, if unsupported, is liable to sink down, leaving an opening, and the cement forming the joint is often allowed to trickle inside the pipe, causing an obstruction which will retain matter, and may ultimately cause a choke. The proper construction is to support the bend on a bed of concrete and to fit a lead flange round the metal pipe and into the socket of the earthenware pipe before filling the latter with cement.

(3.) *The connection between gully traps and drain.*—In the case of every building almost, at a first examination, this joint is found open, allowing the drain air to escape close to the wall of the building, through the foundations of which, as in the case above, it too frequently finds its way underneath the floors.

(4.) *Pipes with open or broken joints.*—These are found sometimes, the result of bad workmanship, or occasioned by the settlement of walls or part of the trenches.

(5.) *Open joints in soil or ventilating pipes.*—It is surprising if some such defect is not found in every building, even when annually inspected. The back of the pipe-joint is frequently left

unjointed, owing to the difficulty a clumsy or lazy workman may have experienced in getting at the back of the pipe. Such a defect may allow the impure air to enter the house through a window.

(6.) *Top of the ventilating pipe too near the eaves or close to an attic window.*—By such an arrangement the air passes out at the top, and may enter a bedroom under the slates or through an attic window. It should always terminate at least three feet above the eaves, or be carried up the roof slope until clear of the attic window.

By such simple means as these are houses and buildings rendered unhealthy and dangerous to life, whilst the great majority of people go on unheeding, even attributing illness and lowered health to other causes.

Dr. Pridgin Teale, of Leeds, a medical gentleman who has studied sanitary matters, states that "probably one-third at least of the incidental illness of the kingdom, and some of the fatal results of surgical operations in hospitals and private houses, are the direct result of drainage defects, and therefore *can* be and *ought* to be prevented." Dr. Oliver, of Newcastle, has also said, "See to the drains of the house. . . . Once the drains begin to leak or become imperfect, there is not a room in the house which contains pure air. The gas escaping from the drains finds its way along chinks in the walls, underneath floors, follows the course of gas-pipes, and may escape into the bedrooms, and play around the head of some unfortunate victim as he is asleep. At a time, therefore, when the nervous centres are off their guard, and the body is easiest affected, as in sleep, the poisoned air is being inspired hour after hour."

Householders and proprietors have themselves largely to blame for any evils which exist, because they give tradesmen *carte blanche* with plumbing and draining work, which is buried out of sight without proper supervision, or they trust to architects who give little attention to such matters, and who seldom dream of securing any effective test.

The remedy is simple, however. They ought before contracting a purchase or renting a house to secure a certificate from a duly qualified person as to the state of the sanitary arrangements, and if new works or alterations are being executed, a similar authority should be called in to describe and supervise. If these points were attended to, and if an annual inspection were made, each would have the mental satisfaction and guarantee that things were in proper order.

School and hotel proprietors, governors of infirmaries and hospitals, etc., ought to be compelled, if not by law, then by the force of public opinion, to exhibit a certificate indicating that the buildings under their care are sanitarily safe.

And if corporations and local authorities would insist on an inspection, test, and certificate on all drainage and sanitary work, and would go the further length of insisting on every proprietor being able to produce the certificate of some competent person as to the sanitation of his property, then our mortality rates would undoubtedly be materially lowered.

SCIENTIFIC AND CURIOUS.

Professor Huxley says that an oyster is a far more complicated piece of machinery than the finest Swiss watch.

Electric Leakage.—It appears that owing to an unexplained accident to the insulator of an electric main passing through Walbrook, E.C., a metal shop front became charged with electricity, and passers-by were enabled to obtain shocks gratis by touching the shop front. Fortunately the supply was a weak one, otherwise serious results might have ensued.

Melting Power of Man.—During one day the human body generates enough heat to melt 40 lbs. of ice, and raise it to the boiling-point. A visionary is engaged in inventing an apparatus whereby the surplus of this heat may be stored up and used for cooking one's dinner. The apparatus will be exhibited at the World's Fair, in 1893, alongside the rain-making machine, Keeley's motor, and the air-ship.

Spider Poison.—A common house-spider fell from the ceiling upon the face of Mrs. Annie Krozen, who was admitted last month as an inmate of a Canadian workhouse. A few hours later her face began to swell, and soon she lost the sight of one eye—the left. The next day her right eye became affected. In two days she was totally blind.

Tears are made of.—The chief element in the composition of a tear is water, but with water are associated minute proportions of salt, soda, phosphate of lime, phosphate of soda, and mucus, and when seen under the microscope, a tear, after evaporation, looks like a very small fish-bone, owing to the salines forming themselves into lengthened cross-lines.

Heart Power.—The workings of the human heart have been computed by a celebrated physiologist, and he has demonstrated that it is equal to the lifting of 120 tons in twenty-four hours. Presuming that the blood is thrown out of the heart at each pulsation in the proportion of sixty-nine strokes per minute, and at the assumed force of 9 feet, the mileage of the blood through the body might be taken

at 207 yards per minute, seven miles per hour, 168 miles per day, 61,320 miles per year, or 5,150,880 miles in a life-time of eighty-four years. In the same period of time the heart must beat 2,869,776,000 times.

Begging for Morphia.—Beggars with bank-books and owning villas have often been discovered in Paris. A mendicant asking alms in order to supply himself with morphia is, however, a rare specimen of the tribe. A person of this description was arrested recently in the Champs-Elysées, where he limped along on crutches, making piteous whines for money. When taken to the police station two instruments for injecting morphia were found in his possession, and he asked and was allowed permission to use one of them on the spot, as the sensation of being arrested was too overwhelming. He then stated that as a tailor's help he was able to gain enough to support him, but being obliged to use morphia for a cardiac complaint he "begged" in order to keep himself supplied with the drug.

Gas Poisoning.—A curious and unpleasant case of poisoning happened some time ago to a foreign actress. When the doctor was summoned the victim was foaming at the mouth, her face was pallid, her extremities cold, the pulse was intermittent, and the respiration superficial and slow. Having decided that the cause of this condition was the inhalation of illuminating gas, he used injections of ether. As these proved abortive the doctor resorted to nitroglycerine, of which he injected 1.64th grain into the præcordial region; the result was prompt improvement and rapid recovery of the patient.

The Physics of Cycling.—According to a German expert, Dr. Kolb, who has been making experiments with a delicate machine for measuring the beats of the pulse, cycling is much less exhausting to ordinary persons than running, which, he alleges, is the most exhausting of all physical exercises. How about rowing? Seeing that there is greater tax on the "wind" of a runner than upon that of a cyclist, this does not seem an extraordinary discovery. Still it is satisfactory to be told that weakness in the action of the heart or arteries seldom results from cycling.

Health and the Working Classes.—Dr. Thresh, in an interesting lecture delivered at Ixworth, on January 22nd, made the following remarks:—"One of the most favourable signs of the present time was the really intelligent interest that the working classes were taking in matters of health, which he regarded as particularly encouraging for him as a medical officer of health." Addressing the men of Ixworth, he says, "They have done such good service recently in the cause of public health." Waiving references of a technical or political character, he could not help remarking what a grand thing it would be for the country if every clergyman would bestir himself as their vicar had done, and so prove to his people that he had the welfare at heart both of their bodies and souls. The great social question which should engage the attention of statesmen is the health of the people. Health was really the acme of civilisation.

The Hereditary Transmission of Mutilations has just been the subject of some remarkable evidence. Mr. A. J. S. Shiddell, of Lexington, Ky., U.S.A., selected a pair of white mice for the experiment, on account of the rapid succession of generations, as they breed every thirty days, and when thirty days old are able to reproduce themselves. He kept these mice by themselves, and took their young and clipped their tails off. When they were old enough to breed, he selected a pair from among those with clipped tails, and performed a similar operation upon their offspring. After the seventh generation, some of the mice were born without tails; and, after a few more trials, a breed of tailless mice was firmly established. The process was then reversed, by mating an ordinary tailed mouse with one of the tailless breed; and, after a number of generations, the breed of mice with the usual caudal appendage was once more obtained. Incidentally to these experiments the "in and in" breeding of the mice was continued through ninety-six generations, all the sickly and defective animals being destroyed, and only the best specimens selected to continue the race. The result was the production of a pure-blooded animal, much larger and finer in every way than the original pair. These experiments are apparently trustworthy in every respect, and are of such importance from a scientific point of view—especially in their bearing upon the theory of evolution—that we hope they will be confirmed by repetition by one or more independent investigators.

Not a hundred miles from Brixton Station is to be seen the announcement, immediately under Dr. ——, surgeon, physician, apothecary, etc.—

TOOTH GOT OUT
ONE SHILLING
WHILE YOU WAIT.

Could not the learned doctor devise some means by which heads could be left in the morning and called for at night?—thus demonstrating the saying of "losing one's head."—*Chemist and Druggist.*

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

PHYSICIAN: "I find your husband suffering from dipsomania." Wife: "How glad I am to find it isn't strong drink."

"WHATEVER is the matter with Fido?" "Oh, isn't it horrid? I gave him to the laundress to wash, and she starched him."

I'LL CALL AGAIN.—Young student physician (to charity patient): "I—I think you must have a—a—some kind of a fever; but—our class has only got as far as convulsions. I'll come in again in a week."

DENTAL AND ACCIDENTAL.—A man was shot at, but was saved by the bullet lodging in his false teeth. A fine instance of tooth-stopping. Still the saving of life was purely acci-dental.

NOTHING IN IT!—"There is no science about thought-reading."

"You differ greatly from most learned men."

"But I know because I tried it. I told the thought-reader to read my mind, and, after holding his hand on my head five minutes, he confessed he could read nothing. No, sir, there's nothing in it."

A REMEDY FOR DEAFNESS.—A fact. The following amusing incident occurred a short time ago. An elderly working man entered the shop of a chemist where he had previously purchased a remedy for deafness, with which complaint he was afflicted. The chemist evidently was aware of the aural deficiency, so as the man entered wisely nodded a good-day and kept quiet. "That stuff," said the man with strong local accent, "as I got from you ain't done a bit of good. I think I must have tried almost ivvery thing as I've heard tell on wi'out doing any good. But I thought I'd just ask you about these here new-fangled consarns, 'Telefones,' I think they call 'em. They say as you've nobbut to put your ear to 't, an' you can hear any one talking in a minute. I suppose you haven't one as you could let me try?" He was recommended to the telephone office not far away.

A SIMPLE SOLUTION.—A medical journal devotes a whole column to explaining what causes cold perspiration. Any one who has gone up a dark alley and stepped on a dog would be wasting valuable time in reading it.

A SAFE CURE.—Lady (to chemist): "I have a corn from which I suffer dreadfully; can you recommend anything that will cure it?"

Chemist: "Certainly, madam. See, here you have an excellent preparation which will make your corn disappear in a very short time. I hav a customer who has used this lotion for the last fourteen years, and he never tries anything else."

REAL GRATITUDE.—A dentist was saved from drowning by a labourer, and from the depths of his grateful heart exclaimed—

"Noble, brave, gallant man! how shall I reward you? Only come to my house, and I will cheerfully pull out every tooth you have in your head, and not charge you a sixpence!"

SOUND ADVICE.—Patient: "I say, doctor, what sort of a lump is this on the back of my neck?"

Doctor: "It is nothing serious; but I should advise you nevertheless to keep your eye on it."

DEATH TO THE MOSQUITO.—A French scientist promises to exterminate the merry little songster who makes night hideous. His apparatus is a large cage of closely interwoven wires, in the centre of which is an incandescent lamp. The wires of the cage are connected with a battery which keeps them charged. When the cage is set at night in a place infested with mosquitoes they flock in swarms to the light, and, passing between the wires, receive a shock which instantly kills them. The tiny sparks which flash out as each insect dies make the region round and inside the cage a mass of scintillating light, and in the morning bushels of the dead mosquitoes can be swept up underneath. The plan will prove a gold mine to the seaside towns which first adopt it, and can advertise that mosquitoes are electrocuted instead of having to be killed by the tedious old-fashioned methods long practised with indifferent success by summer boarders in rival watering-places.

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The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

As we expected last month, the cholera has reached the shores of England, but we have little to fear of an epidemic this year.

* * *

A few imported cases may still occur, but the wise and prompt measures taken by our sanitary authorities, aided by the cool weather which we may now expect to prevail, will probably prevent its taking root on our soil.

* * *

The danger, however, is not past. The most learned epidemiologists have all along foretold that the real danger does not lie in these autumn months, but in the spring and early summer of 1893. Previous epidemics, both in England, in Spain, and elsewhere in Europe, point to the fact that unless circumstances are peculiarly favourable to its development, as happened at Hamburg this year, cholera travels somewhat slowly, and requires some time to acclimatise itself before it assumes the most virulent epidemic type.

* * *

It may lie in the earth throughout the winter, it may even exist for several years if the temperature be not too low, and on the soil being turned up, or being percolated by water which ultimately finds its way to human habitations, the infection may reappear in its strongest form. The last epidemic in Spain was conclusively traced to this persistent source, and that prevailing in Paris at the present time is believed to be a recrudescence of the epidemic there in 1884.

* * *

But if the evacuations and clothing from stray cases now appearing in this country be absolutely destroyed either by fire or by chemical poisons, then the acclimatisation of the germ, and therefore its most virulent epidemic type, may be prevented in England.

* * *

Better, however, be prepared unnecessarily, than run the risk of sharing the experiences of

Hamburg. Therefore let every head of a household seriously study for himself the subject of "Preventive Disinfection," on which we provide an article this month, and personally superintend or carry out the necessary measures.

* * *

So much for the cholera. There are other maladies which cause more deaths every year than cholera is ever likely to do. But simply because we have them always with us, while cholera only comes occasionally, and for a brief period then, we think comparatively little of them. For instance, while the deaths from cholera may be counted singly, here are the deaths in England and Wales from some zymotic diseases in the second quarter of this year alone :—

Measles	4,183
Whooping cough	3,552
Diarrhœa	1,670
Diphtheria	1,315
Scarlet fever	1,223
Fever	787
Small-pox	99

* * *

In some districts too—for instance, in Darlington, as was recently mentioned by Dr. Manson, who quoted from the quarterly returns for the county of Durham by Dr. Armstrong—the death-rate from consumption exceeds that of all the other infectious diseases put together; yet we do not go into a panic over consumption—strange inconsistency!

* * *

Then again, the 99 deaths recorded above from small-pox have caused far more stir than the thousands from whooping cough or measles. The few imported cases of cholera have moved the general public to a sense of the importance of sanitation more than the many thousands of scarlet fever occurring every year.

* * *

The members of our Public Sanitary Service, however, are constantly at work reducing the causes and the areas of epidemic; and if the present scourge goes no further, they will doubtless be thankful that it has created an occasion whereby the people are brought into greater sympathy and co-operation with them.

* * *

"Painters' Colic," or lead poisoning, seems greatly on the increase. A few weeks ago a fatal case of lead poisoning, which a certified surgeon styled "acute plumbism," was reported from Wyke. In this case the victim persisted in drinking the water derived from a spring in his garden in preference to the water provided by the Local Board, with what result is painfully evident. Efficient filtration is the only immediate remedy.

As the attention of sanitarians is eagerly directed to foreign cities at the present time, we give the following returns for the second quarter of 1892 :—

City.	Population (enumerated or estimated).	Annual Death-rate per 1000 living.	Total Deaths from Diphtheria.	Fever.	Diarrhœal Diseases.
Edinburgh	264,787	17.8	7	6	16
Glasgow	669,059	24.4	28	24	59
Dublin	349,594	31.3	4	19	18
Calcutta (8 weeks)	466,460	27.4	2	630	594†
Bombay	821,764	33.0	?	2162	455†
Madras (12 weeks)	452,518	42.1	?	1352	1075†
Paris	2,424,705	22.4	359*	142	1101
Brussels (with 8 Faubourgs)	476,254	19.8	10	41	169
Amsterdam	426,914	19.9	18	13	—
Rotterdam	216,679	25.6	4	5	2
The Hague	165,560	19.7	11	2	—
Copenhagen	326,000	21.7	70	4	82
Stockholm	248,051	19.7	90*	13	103
Christiania	156,535	17.1	14	2	21
St. Petersburg (without Faubourgs)	954,400	28.3	62	114	691
Berlin	1,662,237	19.6	256	28	1078
Hamburg (State)	637,686	25.0	67*	37	256
Dresden	286,200	20.7	101*	2	127
Breslau	346,442	25.4	46*	13	247
Munich	366,000	28.2	59*	4	369
Vienna (with Suburbs).	1,406,933	25.9	434*	18	795
Prague	321,167	31.5	51	27	40
Buda-Pesth	526,263	29.1	208	21	426
Trieste	157,343	27.4	39*	8	5
Rome (12 weeks)	437,419	19.0	35	60‡	116
Turin (81 days)	328,777	22.1	35	31	111
Venice	162,664	20.7	13*	13	85
Cairo (11 weeks)	374,838	44.2	4*	181	960
Alexandria (11 weeks).	231,396	38.4	25*	38	480
New York	1,801,739	25.7	380	78	527
Brooklyn	957,163	20.1	188	15	17
Philadelphia	1,092,168	20.7	264	93	267
New Orleans (9 weeks).	254,000	31.8	17	56	75

* Including deaths from croup.
† The deaths returned under diarrhœal diseases included 429 from cholera in Calcutta, 35 in Bombay, and 276 in Madras.
‡ Including 33 deaths from malarial fever.

Safeguards against Cholera.

The first thing to be inculcated is, in popular language, "not to lose one's head;" to avoid creating or adding unnecessarily to any existing state of apprehension and nervousness by any exaggerated or sensational statements. Let it be borne in mind that epidemics of cholera make little or no financial impression on life assurance offices. People who insure their lives are ordinarily frugal, temperate, and careful people, whose modes of living and surrounding conditions, both general and personal, are hygienic and wholesome. Such people do not commonly die of cholera. The fact furnishes a standard to be worked up to, although it is not, of course, always attainable.

The only real safeguard against cholera is sanitation in its broad as well as in its restricted and particular sense. First and foremost, a pure water-supply; next, good air and free

movement of it, cleanliness, wholesome food, a temperate life, and the avoidance of all overcrowding. Dirt and refuse of all kinds should be at once removed, drains and sewers thoroughly flushed, cisterns inspected and cleaned if necessary, windows kept open and walls whitewashed; but it is important to avoid all sloppiness of yards, floor surfaces, and damp earth.—*Lancet.*

PREVENTIVE DISINFECTION.

Theory.

THE French nation is distinguished by a passion for theory and a rigid adherence to its principles; the English, by a contempt for theory, unless it immediately results in some common-sense practice. Very little theory will therefore be given here, except such as may be necessary to show that

Cleanliness,

in its widest meaning, is the first and the principal condition by which infectious diseases may be warded off. Dirt has been described as "matter in the wrong place," and seeing that in the hurly-burly of life matter is constantly and necessarily changing its condition and changing its place, the most we can do is to speedily rearrange its particles and put them in their proper order—that is, to keep the different kinds of matter—or dirt—rigidly separate. Manure, for instance, is very good for the garden or the field, but if it be allowed to remain in or near a house or a human being, or if even the odour of it be allowed to enter, it is out of place, it is dirt, it is dangerous.

The reason for this is very simply told. It is known that all infectious diseases are the result of living things—called germs, bacteria, or what you will; and these living things require to be fed in order to live and multiply. Now, just as the seeds of a plant cannot grow and flourish unless they drop into suitable soil or conditions, so the germs of disease cannot spread unless they fall upon suitable ground or suitable people. Well, the suitable soil for nearly all disease germs is dirt, filth, decomposing or misplaced matter, whether it be in the air, in the water, in the house, or in the human body. Some of this filth may get into our food, or our bodies, and possibly *may* not injure us; but if the wrong germs are about, and have been breeding upon this filth before it enters our food, our drink, or our bodies, then we may become subject to the particular disease of which the germs are the emissaries. It is therefore

The Aim of Disinfection

(1) To remove rapidly all filth from the body, the clothing, the house, and the neighbourhood, so that if disease germs come sailing around they find no happy islands to occupy and breed upon.

(2) To poison or otherwise slay the germs if once they make their appearance.

Moisture is one of the conditions usually necessary for developing infection, but if the moisture be clean it is all right. The moist places about the house should therefore be carefully inspected and cleansed.

The Cistern.

The entire water supply of many houses passes not directly from the pipes into the basins or jugs, but first of all through a cistern, which is situated somewhere near the top of the house. This cistern should be so placed that it can from time to time be examined and cleaned. But whether difficult or easy, make up your mind to have it overhauled. Don an old suit, and, accompanied by a candle, invade the cistern closet. First empty the cistern completely. This may be done by tying up or otherwise supporting the floating ball so that no more water can enter, then letting the water off from the taps downstairs. If you have been long in the house, and have not previously visited that part of your domicile, you may be surprised at the collection which will be found at the bottom of your cistern. Pieces of plaster, stone, slate, wood, paper, rag, candle, nails, live worms, a dead mouse or bird perhaps, and a coating of dark, greasy mud, which represents in part the silent showers of dust which have penetrated and settled

there during these many months or years. Plug up the outlet hole at the bottom to prevent the dirt passing down the pipe, and after adding a tablespoonful of permanganate disinfectant, or some diluted carbolic acid, carefully remove all the dirt, soaking up the water with a thick woollen scouring cloth. Then let the cistern be as carefully washed as if it were a cooking utensil. Now remove the plug from the bottom of the cistern, let the ball-valve fall into its place, and the water will commence to flow again. Before leaving the cistern cover it over with loose boards and a piece of matting or other material to keep out the dirt.

The Water-Closet.

This should be and can be kept spotlessly clean outside and in, if intelligent care and trouble be taken. After flushing out with water, deeply tinged with permanganate disinfectant or carbolic acid and water, soften any incrustation in or around the pan with hydrochloric acid and water (half a wine-glassful to a pint), and by the vigorous use of a hard brush, and if necessary an old knife, remove every particle of colour. Again flush the pan, scrub every part of the outside with carbolic soap, and keep a tin of carbolic powder at hand for daily use.

Bath and Lavatory.

Flush with permanganate disinfectant, then with very hot water containing a little turpentine to remove deposit of soap from the overflow and other pipes, then finish with carbolic soap. Any crust may be removed with diluted hydrochloric acid, as described above.

Sinks in Scullery, etc.

Fill with hot water and washing soda, allowing some to go through the overflow pipe, where grease and dirt often collect. Follow this in the same manner with hot water containing a little turpentine; then with carbolic soap and a vigorous scrubbing-brush go all over and around, and finish up with diluted hydrochloric acid (see above), or a little chloride of lime and plenty of water.

Outside Drains.

Sprinkle down a tablespoonful of permanganate solution or half a pint of carbolic water (a teacupful of acid to a gallon), remove the grating where possible, and with a hard broom cleanse away the adhering filth. Now fill the bath or sink which flows into the drain with water containing some permanganate disinfectant or carbolic water, then draw the plug, and while the water is rushing down, briskly stir the drain trap with a hard broom or broom handle. By this means nearly all the settled dirt will be washed away, and any heavy stone or gravel may be removed by a suitable utensil. Keep the drains daily sprinkled with carbolic powder, and repeat the flushing every week or two.

Other disinfectants may be used, such as Sanitas liquid or powder, Jeye's Sanitary Fluid, etc.

Dust-Bins, Middens, etc.

These should be kept dry and covered, as far as possible, seeing that moisture assists decomposition. Let them be emptied, *and cleaned*, at regular and frequent intervals, using freely, both before and after the operation, some strong carbolic or other disinfecting powder (not liquid). During the cleansing process the doors and windows near should be kept closed, to prevent any effluvia from entering the house.

Stables, Kennels, Hen and Dove-cotes.

Scrupulous cleanliness is almost the only direction necessary here. The walls should be washed with fresh lime-wash, containing a teacupful of carbolic acid to the gallon. The floors should be broomed out with water containing hydrochloric acid or chloride of lime (a teacupful to a gallon), and the drains freely and frequently sprinkled with chloride of lime.

These are general measures which ought to be adopted regularly in every household, but especially during an epidemic. There are still other precautions to be taken to ensure the purity of the air, water, and milk.

The Air

may be contaminated by sewer gas, if the drains are not scientifically laid, or not in proper order. As the ordinary householder is unable to test the drains for himself, he ought to employ a sanitary expert to examine and report upon them. The authorities in some places undertake this duty, either for a fixed charge or free, and there are sanitary associations, sanitary engineers, and also plumbers who are more or less skilled in testing drains. An expert who devotes all his attention to this work is most likely to do it thoroughly.

The Water Supply.

This is a very frequent source of danger, the *Lancet* being of opinion that "water is THE GREAT carrier of infection." So generally is this accepted that whenever there are epidemics of typhoid fever, cholera, dysentery, or yellow fever—not to speak of minor ailments which go into the same class—the medical man first of all examines the water supply. Now, as we have already remarked, even disease germs cannot live long in pure water.

This was conclusively proved some years ago by Dr. Hatfield Walker, who added cultures of various bacteria to impure water, and to water filtered through Mawson's Filter. The former was quickly filled with colonies too numerous to count, while the latter only contained three colonies after standing for five days. The same experiment gave similar results during a recent typhoid epidemic in Paris.

Therefore, even if we do not succeed in killing the germs at once, we ought, by using and drinking only *clean water*, to shorten their rations and their existence. Now a good filter, scientifically constructed and carefully kept, will clean the water.

Many filters, however, either from faulty construction, imperfect filtering material, or from being too long kept in use without cleansing or renewing, are worse than useless. No filter should be used which cannot be easily taken to pieces to be cleaned and renewed. No filtering material should be used unless its initial purity has been tested and proved by a skilled analyst. Every filter should be regularly examined, cleaned, and renewed at stated periods. The following are the

Special Precautions

recommended by Mawson, Swan, & Weddell, Newcastle-on-Tyne, to be observed during the prevalence of epidemics or where the water is of specially doubtful origin.

1. Water should be boiled and allowed to cool in covered vessels before being filtered.

2. Every drop of water for drinking or cooking purposes should be passed through one of Mawson's Filters. An imperfect or doubtful Filter is worse than useless.

3. The Filter should be completely emptied every morning, and only freshly filtered water used.

4. To every gallon of water add, before filtering, a pinch (about two grains or more) of powdered Alum.

5. Twice weekly fill the filter, and add a teaspoonful of solution of permanganate of Potash (or Condy's Fluid), then allow water to pass plentifully through it until the filtered water is quite bright and free from taste.

6. The filtering medium of Mawson's Patent Filters should be renewed frequently; those in glass once a month, those in earthenware once in two months.

The Milk

should all be brought quickly to the boiling point as soon as it enters the house, and the vessels in which it is to be kept should be first scalded with boiling water, and, after the milk has been put into them, closely covered. This precaution may seem "over the score," but if we recollect that milk is really an animal secretion, very liable to decomposition, and affording splendid nutriment for germ as well as for man, the reasonableness of boiling it will be more readily granted.

Personal Precautions.

THE HANDS.—The washing of hands before

meals, anciently a religious duty, should be scrupulously observed, especially during the prevalence of an epidemic like cholera or typhoid, when the infection enters almost exclusively with the drink or the food. Some disinfecting soap, such as carbolic, may be employed to destroy any germs as they are washed away, but strict cleanliness is the real safeguard. In the case of those actually coming into contact with the sick, mere washing is hardly sufficient: the hands should afterwards be dipped in some disinfecting solution, such as permanganate water.

THE MOUTH is also an important harbour of germs, and in epidemics it should be well rinsed before each meal with a little weak permanganate, or, what is much more agreeable and beneficial to the teeth, some "Contra-septine" water (20 drops of Contra-septine in half a wine-glassful of water).

THE THROAT and tonsils are, however, the most important organs of all in relation to infection, as nearly all diseases communicable through the air, as well as some others, make their first visible appearance in the throat. Therefore a most important part of personal disinfection consists in gargling the throat several times a day with diluted Contra-septine or some other suitable toilet disinfectant.

Now all these precautions may to some seem troublesome, if not superfluous, yet, bearing in mind that they relate to the preservation of health and life, the most important of all subjects to every human being, we think they should not be neglected. If systematically undertaken as part of the ordinary *régime* of life, they become not only easy but delightful, and they will certainly tend to prolong life and sustain health in perilous times.

PROFESSOR S. P. LANGLEY, of the Smithsonian Institution, in discussing "Mechanical Flight," remarks:—"It has been said that those who ask attention to a new truth (and a new truth is always looked on with suspicion) find that its public reception passes through three stages. In the first, its advocate is told that his so-called truth is opposed to all that is known, and absurd; in the second, that if proved true, it would be useless; in the third (which is the stage where its ultimate success appears probable), that it has always been known, and that no one needs to be told of it."

A VISIT TO HUMDRUM CASTLE.

BY R. L. HAY, Sanitary Specialist, Newcastle-on-Tyne.

THE cholera! the cholera! is the cry on every hand. The poor and the wealthy alike are in a state of alarm. Those who usually pooh-pooh hygienic matters are rubbing their eyes and bestirring. Among them is Lady Humdrum, who for half a century has been quite sure that Humdrum Castle was the healthiest residence in the county, but at last, as she stated in a letter to me the other day, she just wished to be perfectly at ease in her mind regarding the drainage and sanitation, in case the very slightest defect would allow the much-dreaded plague to attack any of the members of her household. Accordingly, without delay, the next morning I proceeded to the castle, which I found situated amid lovely surroundings. A rugged hill behind, clad with the varied and beautiful foliage of trees, ferns, and heather, and in front an undulating valley sloping gently towards the river, about one and a half miles away. The view from the tower is unequalled, there being nothing to mar the eye as far as it could reach. The main and older portion of the building is of ancient date apparently, but large additions and wings have been added from time to time. The windows are large, and the internal and external features are all of a pleasing nature.

Having made a preliminary tour of the castle with the butler, it did not require much insight to discover that the sanitation was not as perfect as could be, in spite of her ladyship's declaration. I found that the waste-pipes from such fittings as sinks, lavatories, baths, and cisterns were all discharging direct into the drains, many of them without any trap at all to prevent the entrance of the impure air, and others with traps which were quite useless. The water-closets—six in all—were of the old pan description, and almost all of them were in a dangerous condition; the soil-pipes from those on the upper floors were completely embedded in the walls, and, therefore, unapproachable. Then a cesspool, 3 feet square by 2 feet 6 inches deep, existed in the centre of the quadrangle, which is overlooked by the windows of the kitchen department and many bedrooms, and having an open grating on the top, allowed the contents to poison the atmosphere around. It was afterwards discovered that this received most of the drainage, but an outlet from it passed underneath the main building, and finally discharged into a much larger cesspool, about a hundred and fifty yards from the house, which had not been examined or cleaned for nearly fifteen years.

On opening up the drains in the quadrangle and at several other points, they were found to be constructed of loosely-built stonework—the oldest and worst construction—and to be so sluggish in flowing that large quantities of matter had been retained all along their course.

Three succeeding days were occupied in further examination and in testing the whole of the drains, soil-pipes, etc., with the smoke test. It was with great difficulty that the smoke could be confined to the drains owing to the large area of the open ends, and to the numerous openings. Among the first evidences of serious defects was the escape of several rats in the quadrangle, which appeared to be half-suffocated with the smoke; then immediately afterwards the smoke poured forth from the rat-holes, and soon entered the kitchen, scullery, and pantry through crevices under the sinks, and at the joints of the flags. Further applications at other points revealed defects in the soil-pipes which are embedded, as the smoke escaped densely at some points in the corridor near them. But worst of all, the main drain from the quadrangle cesspool, which was ultimately found to pass under the dining-room floor, was proved to be in such a defective state, that on the removal of some of the floor boards the space underneath was found to be so thick with smoke that nothing could be seen for it.

These and several other emissions of smoke indicated that the cesspools and the drains themselves, which are elongated cesspools, are supplying the whole castle with poisonous air, so that not one apartment could possibly be considered a safe place.

The immediate result of my examination and report was that Lady Humdrum, with her son and daughter and all the servants, forsook the castle and its beautiful surroundings to reside in a hotel in town, which I hope for her sake is in a safer state sanitarily, until the sanitary arrangements are reconstructed on modern and safer lines.

Such insanitary abodes, whether of lesser or greater magnitude, would indeed be the breeding-ground for cholera and many other diseases.

THE lungs are the only viscera that will float in water, hence the popular designation of "lights" is applied to them.

A CHEMIST advises that tinned fruit be opened an hour or two before it is used. It is far richer after the oxygen of the air has been restored to it.

A DISH of charcoal placed in your meat larder will keep the articles as sweet and wholesome almost as well as ice. Charcoal is a great disinfectant.

THE STAFF OF LIFE.

(Continued.)

BY THE EDITOR.

HAVING seen that everything is sacrificed, in the making of bread, to its whiteness,—that the bone and brain-feeding phosphates are abstracted, and the food rendered unsatisfying to the body in order that it may be satisfying to the eye—let us see what measures have been hitherto taken to make up the dangerous deficiency. To do as your neighbours do is, in common parlance, to exercise "common sense"; to differ from them, even in the colour of your bread, is to be a faddist, a theorist. Now, fortunately, society is sometimes saved from the dire effects of its common sense by these same faddists, who, if they do not manage to get all their own way, manage in time by sheer persistence to persuade the public to follow them a certain length.

First, there were the bran-breadists, who, while despising the coarse brown country bread of thirty years ago, added to the white flour a certain proportion of the old-fashioned large bran. This had the advantage of being at once a protest against over-purification, and an aperient; but we doubt whether any further advantage was derived from it. The rough condition of the bran, while it stimulated intestinal action, at the same time prevented the juices of the body from dissolving out and absorbing the mineral wealth which was embedded in the woody tissue. After the bran era came that of "wheat-meal," which never came into general use, as, when genuine, it was little more than the coarse flour of days gone by. Next came the "whole meal," so called because it was *not* whole meal, but had the coarsest of the bran removed. This is now growing in popularity, and is likely to continue to grow if the demand be met by a supply of the genuine article. But, after all, it is a mere compromise with civilisation. In adopting it, if we know what we are doing, we are only patching up the

quarrel between our conscience and our constitution. Either the phosphates and other salts which exist so largely in the bran are good and necessary, or they are not. If they are good, and the woody fibre of the bran is bad, then science ought to step in, separate the two, and let us have the good without the bad.

Several efforts have been made to do this, with varying results.

M. Parrish, of Philadelphia, introduced many years ago the chemical food which has now come to bear his name, by whomsoever made, and which is consumed in thousands of tons annually in the United Kingdom alone. It is a solution in phosphoric acid of the phosphates of potass, soda, lime, and iron, made into an agreeable syrup with sugar and some flavouring material, such as orange flower or raspberry. Chemical food is found most useful to weakly children when growth and general condition are impaired either by sickness or imperfect feeding. Theoretically, this is just the class which is likeliest to benefit from the addition to their treatment of chemical food, and practically it is found to be so. There are several reasons, however, against the adoption of chemical food as a real article of diet, instead of a medicine as at present. The iron and the free phosphoric acid upon which much of its therapeutic action depends, render it unsuitable for general and everyday use, while the price, when it is properly prepared, renders it prohibitive. Much of what is sold is little better than an agreeable syrup very deficient in the true constituents of chemical food.

One of the most recent inventions is that adopted by the Frame Food Co., Limited, who make from bran an extract containing, according to analyses by Professor Attfield and Dr. Frankland, 10 per cent. of wheat phosphates. This "Frame Food Extract" may be added to bread, cakes, puddings, etc., when they are being made, and in this way the original vital strength of the grain is restored. The same company make a "Diet" which corresponds to the many cooked foods which are already in the market, only that it contains a suitable proportion of the "extract" of phosphates, upon which so much depends. They make also a Frame Food Jelly, which can be used instead of jam, and is readily taken by children. These articles are valuable additions to our food list, and our attention was pointedly drawn to them soon after our last article appeared, by a reader who told us his family had very materially benefited by the regular adoption of "Frame Food Diet."

We must defer until next month a description of the very latest, and what we consider a most likely invention, to come into use with the millions, who cannot afford any great addition to their food bill.

(*To be continued.*)

PUBLIC HEALTH PAPERS.

(*Continued.*)

By Charles J. Russell McLean, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Fellow of the Society of M.O.H.; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. 2.—Ventilation (*continued*).

Special Ventilators are many and various—*e.g.*,

1. *Perforated bricks* inserted in the wall near the ceiling.

2. *Sherringham valves* (Fig. 1, D), which consist in a hole in the wall near the ceiling, with a flap door on the inside, which can be opened or shut at will. Here also the air is directed upwards to the ceiling.

3. *Tobin's tubes* (Fig. 1, A) are in common use in halls, churches, etc., and consist of vertical tubes in the corners and along the walls, rising five or six feet from the floor, and communicating with the outside air by a series of pipes. In this method the air enters above the heads of the people.

Potts' cornice is an ingenious method, and consists of a double perforated tube running round the room at the cornice. Fresh air enters by the lower tube, which communicates with the outside, mixes with the air of the room, and the vitiated air is then drawn out

by the upper tube, which is connected to the chimney or a special extraction flue.

Varley's method is somewhat similar, but in his plan the tube is single, and on three sides of the room acts as an inlet, while that on the fourth side is the outlet.

In the two latter methods ornamentation can be used, and so hide the tubes.

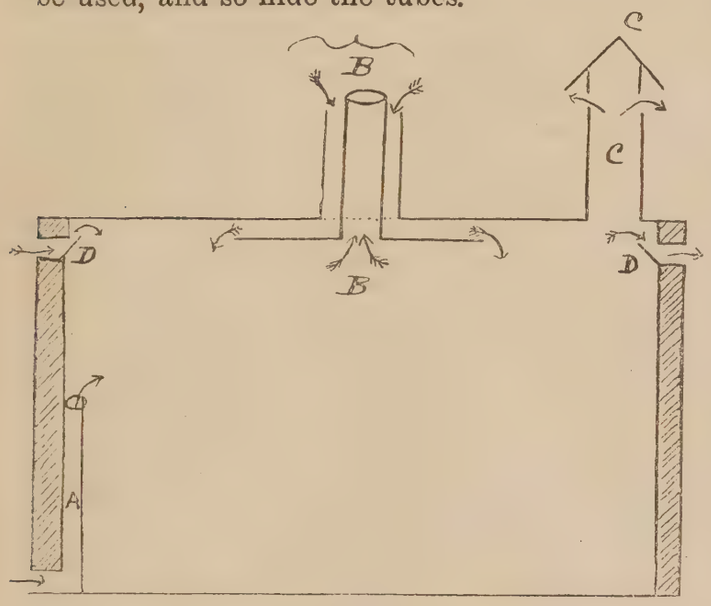


Fig. 1.

McKinnell's ventilator (Fig. 1, B) is suitable for workshops, or one-storeyed buildings, and consists of two tubes, one inside the other, and both of equal size as regards sectional area. The outer tube acts as the inlet, and has horizontal flanges (see Fig.) on the inside to direct the pure air along the ceiling; the inner tube, which is higher than the outer, acts as the outlet.

Stallard's method for workshops is to have a double ceiling with a space open to the air between. The lower ceiling is perforated in order to let the air pass into the room.

It must be remembered that the current in all or any of these methods may be reversed under special circumstances—*e.g.*, by blocking up the fireplace, opening windows, and that, if we except the cornice and McKinnell's methods, they are really intended to act as fresh air "inlets."

As regards "outlet" ventilation, I will only mention one other method—viz.,

Boyle's ventilator. This system can be easily applied to houses when building, or even to any house already built, and at a very small cost. It consists in having a hole, about the size of a brick, in the wall near the ceiling, opening into the chimney, and inserting into it one of Boyle's ventilators, which consist of a metal frame in which a valve of mica or talc hangs, and which allows air to pass out of the room, but prevents reflux of smoke should the draught alter. Crossley's modification has the advantage of being noiseless.

After what has been said it will be seen that the chimney is the common and usual outlet for vitiated air, either through the fireplace direct or by means of tubes or shafts opening into the chimney in some part of its course.

The size of the outlets and inlets should, according to Parkes, be about 24 square inches for each person.

II. Artificial Ventilation.—On this point I will not say much, as to the general reader it is not so important or easy of application as the several methods of *natural* ventilation. There are two methods—viz., propulsion (plenum) and extraction (vacuum). The former consists in forcing fresh air into the room by means of fans or wheels, and a simple example of this method is used in India, where the "punkah" or big fan is used to keep the air in motion. In the extraction method air is withdrawn in a similar fashion by means of like appliances.

Many different fireplaces are used to diffuse and at the same time warm the air, and amongst these the invention of Captain Galton ranks highest. In it the air enters a space at the back of the fireplace by a tube from the outside, gets warmed, and enters the room above the chimney-piece warm and fresh. Other good grates are the "Calorigen" and the "Goldsworthy Gurney," etc. In all of these grates there is the advantage of requiring less fuel, thereby combining economy with efficiency.

Mines and ships are ventilated on the extraction principle. In mines by a fire kept burning at the bottom of the upcast shaft, and in ships by a space at the base of the funnel, which is connected by tubes with all parts of the ship,

and draws the foul air out by means of the up draught caused by the funnel.

Various gas burners (*e.g.*, the Wenham, or Rickett's) can be used to extract foul air. This method is seen in theatres, etc. The heat generated by the gas causes an up draught, and so removes the foul air, and at the same time the noxious fumes caused by the gas itself.

There are many other kinds of ventilation, but the above are the chief methods.

(*To be continued.*)

The Antiquary's Column.

Of Worms, etc.

In olden times, before the advent of stage-coaches and railways, when a journey to London was preceded by prayer, fasting, the making of wills, and long farewells; when books, dissipations, and distractions were few, then the whole world went leisurely to work and to play. If a man purposed to build him a house, he thought of it for ten years, planned it for other five, then took five more to build it:—but he built it to stand the siege of centuries. If he were minded to make him a book—although never a bookseller might be found to print it—he laid levy upon the heavens, the earth, and the regions under the earth for matter to amplify and illustrate his subject, which thus became in his hands a rich and divine poem, although the discourse were of "melancholy" or of "worms."

Thus, in the days of the "merry monarch," a courtly physician to his Majesty, named William Ramesey, did write a treatise "showing worms to be an epidemical evil, killing more than either the sword or plague." In his first chapter he speaks of "worms the subject, and worms the readers, and a worm the author of this book, which must all ere long be swallowed up of eternity and worm-eaten." What the educated man lacked in those days of exact science he made up by a large imagination and a broad creed, which served him in good stead of the vague speculations of to-day. "Worms, for instance," he says, "may have their origination in us by contagion, from certain animated effluviums, or vermicular atom-like corpuscles or ferments which flow out of gross corrupted bodies, and fly through the air, whereby they are communicated to bodies capable of, and fitted to receive such." Could we have in reality a clearer definition of the most modern germ-theories of bacteria and ptomaines than this? Yet we pride ourselves upon being advanced.

The author's imagination is brilliantly shown in the illustrated plate of parasitical worms which he inserts in his volume. Their forms, limbs, furcated tails, and mobile features, varying

"From grave to gay, from lively to severe,"

show at once the rich fertility of the human body and of the author's genius. The causes of worms, which occupy two-thirds of Dr. Ramesey's entire work, are as numerous and as widely divergent as the forms of the vermin themselves. With catholic consistency and the true old-world idea that a book should reflect, irrespective of its subject, the whole creed of a man, he divides his explanation of the presence of worms in man into two headings, hyper-physical and physical, and opens the first section with the title, "God a cause and His Angels." Now, it may appear to some impious that the direct causation of any malady, such as the breeding of worms, should be attributed to divine agency. The reason soon follows when we find the next chapter headed, "The Devil and his Imps, Magicians, Conjurers, and Witches, how they may be causes." The reader will at once perceive it would be improper to deny to divinity the power of doing anything within the power of the prince of the air.

According to the good custom of the time, the author leaves the worms for a while, in order to explain his orthodox views on the omnipotence of God, and to prove the existence of devils, imps, and other supernatural parties who were in league to "macerate and direfully cruciate every part of the bodies of mankind of all ages and constitutions." Then follow in their

logical and cosmical order, as causes of worms, "the heavens, stars and planets, parents, air, plants, fruits, grains, honey, flesh of beasts, milk, wild land-fowl, water-fowl, wine," then "sleeping and waking, retention and evacuation, rest and exercise, passions and perturbations, imagination, choler and melancholy." How parents are a cause of worms is explained by hereditary transmission, and the author strongly urges the impropriety of marrying or giving in marriage any who are so afflicted. "But," he says, waxing wroth as the greatness of the subject fills his imagination,—"but, sots as we are, in "this most weighty matter we are too remiss, "marrying any deformed, unwholesome piece "of mortality for a little money,—and so, "frequently, we leave a crook-back'd, flat-"nos'd, bow-leg'd, squint-ey'd, left-handed, ugly, "infirm, weesle-fac'd, diseased, half-witted, hare-"brain'd, nonsensical, goos-cappical, and cox-"combical, worm-eaten ideot, not only to "possess our estates, but our names, and to "build up our families. And if so, what profit "hath a man of all his labour under the "sun?" From these extracts the reader will perceive that however wide was the empire of worms in the human breast, they do not hold undivided sway in the author's treatise, which, however, is a delightful peep into the old-fashioned way of making a book and the old-fashioned views of disease.

Hints for the Sick-Room.

An Infectious Case.

As soon as you discover that one of the household has been taken with an infectious malady, let a special room be prepared for the treatment of the case.

THE CHOICE OF A ROOM

will depend upon several circumstances. Usually one near the top of the house is selected, because in that position there will be greater quiet and less danger of infection for the other members of the family. For the sake of quiet also a back bedroom is often preferred, although it should not be a dull one where the sun never enters, else it will have a depressing effect upon the patient. The great increase of labour in carrying food and the numberless articles required by an invalid to the top of the house is worthy to be considered; but common sense will usually determine the best room for the purpose, if the essential features of convenience, quiet, isolation, and brightness be taken into account.

PREPARATION OF THE ROOM.

Remove the carpet, the bed-hangings, the curtains (except washing ones), linen, wearing apparel, ornaments, and pictures that might be injured by the fumigation which will follow the sickness. Indeed, have only in the room the bed, two cane-covered chairs or bent wood chairs without covering, a small table, and the necessary toilet requisites. Let the person who is to nurse the sick one choose such articles of dress as can be washed or disinfected without destroying them, and a cotton dressing-gown, which has to be always worn in the sick-room and removed before leaving it. Lay the fire ready for lighting if not immediately wanted; and a small portable gas stove is required, to boil a little water or cook or heat anything required at odd times. A small cupboard is desirable to hold cups, dishes, spoons, medicine, and other little articles which would make the room untidy if left about. A thermometer should be hung up not far from the head of the bed, where the nurse can frequently consult it without any trouble. Finally, a sheet should be tacked over the outside frame-work of the door, and kept moistened with weak carbolic solution to prevent the spread of infection through the house.

DISINFECTION.

The moist sheet, however, is only a very small part of the disinfecting process. Every spoon and dish touched by the patient should be placed in a vessel containing some disinfecting fluid, and

rinsed before it is removed from the room. Some nurses prefer to wash all the dishes in the sick-room, so that they may not, even after precautions, be placed with those in use in other parts of the house. Any article of clothing removed either from the patient or the nurse should be dipped in a hand-basin full of disinfecting fluid before removal. Most important, however, is the immediate and thorough disinfection of all that passes from the patient. In typhoid and choleraic seizures especially there is the utmost danger of an epidemic spreading if there be the slightest carelessness in removing and utterly destroying by disinfection the minutest particle of the evacuations. Some may think that it is all right if it can only be washed thoroughly out of the vessels into the drains, but, alas, it is just there that the danger lies of its spreading. The infective matter is remarkably persistent, and may cling to, live in, and breed in the drains to the danger of a whole neighbourhood; and if carried into a river may do infinitely more harm still. The remotest speck added to water, even the water in which a plate is washed, is sufficient to start an epidemic. Therefore the most scrupulous care should be exercised in destroying all infective matter before it leaves the sick-room. Any article of food kept in the room, such as sugar, salt, etc., should be covered. The nurse should before eating always disinfect her hands, and rinse her throat and mouth with weak Permanganate solution or Contra-septine fluid.

The disinfectant should be kept in a *large* bottle ready diluted for use. To prevent accidents, none of the strong undiluted article should be kept in the sick-room.

THE "BILTOR" PIPE.

This is not a gas pipe, nor a drain pipe, but a tobacco pipe. There are some who look upon the fragrant weed with disapproval, but seeing it gives pleasure to some millions of the human race, mostly male, the question arises, what are its real dangers or disadvantages? Every one knows that it contains a virulent poison called nicotine, which is mostly destroyed as the tobacco burns away. Small quantities, however, are preserved by the moisture, and may enter the mouth with the juice, and thus do perpetual though insidious mischief. The "Biltor" Pipe contains a cartridge of bibulous paper through which the smoke is filtered before it reaches the mouth. In this way the juice containing the nicotine is absorbed, and as the cartridge is quite readily removed and replaced, to those who smoke and prefer to do so hygienically, we recommend the "Biltor" Pipe. (See our advertising pages.)

THE ORIGIN AND DIFFUSION OF CHOLERA.

So far as can be gathered, Surgeon-General Cornish says, the epidemic which now threatens the whole of Europe appeared in March or April of the present year in the North-Western Provinces of India, attacked with great violence the pilgrims at the great Hurdwar fair near the source of the Ganges, spread through Cashmere and Afghanistan, reached Persia in May or June, crossed the Caspian Sea and spread amongst the population of Asiatic Russia, from whence it is making rapid progress in European Russia. The epidemic since April has travelled in a north-westerly direction, and has covered or overflowed many thousands of square miles of territory. The history of the progress of the great epidemic of cholera of 1829-33 should be closely studied by those who wish to understand the significance of the present epidemic. Cholera history is very apt to repeat itself, and the circumstances which happened in 1831 are therefore very likely to happen again in 1892 and succeeding years. The route taken by the present epidemic is almost identical with that which invaded Europe in 1831. It is quite a mistake to suppose that since India is the natural home of cholera the disease is everywhere present there and ready to take an epidemic form. An epidemic of cholera follows the same laws in India as in any other country. It is endemic only in certain and limited parts, from which an epidemic advances occasionally, with intervening intervals of uncertain duration. Its progress is influenced by season and atmospheric conditions, and after lasting a period of about three years the epidemic dies out. Surgeon-General Cornish questions whether the cholera in the suburbs of Paris, with its peculiar and circumscribed topography, and weak infective power, can be attributable to the same cause as that which has invaded and is now advancing in Russia. He alludes to that country's half-civilised acquisitions in Asian soil as a source of difficulty and danger in this direction, and considers that, as far as the safety and happiness of her people are concerned, the wealth now spent on the maintenance of a huge army, and on ambitious schemes for extension of territory, would have been more efficiently laid out in the improvement of the sanitary and social condition of the populations under her rule As regards land quarantine and sanitary cordons, which European nations are so ready to enforce against their neighbours, these have never been successful in keeping out cholera. In India, with ample military aid at hand, they have been tried again and again unsuccessfully.

The only provisions on which any reliance can be placed are sanitation, a good water-supply, efficient drainage, surface soil cleanliness, wholesome food and habitations. The invading cholera, if it does not reach this country in the present autumn, is, in Surgeon-General Cornish's opinion, likely to do so in 1893. Happily the early accession of cold weather has apparently had the effect, to which he alludes, of repressing the progress of the disease for the present. The moral of this matter lies on the surface. What we have to do in the meantime is to seek out and repair the weak places in our sanitary harness.—*Lancet.*

DOMESTIC AND PERSONAL HYGIENE.

After a Tiring Day

change your shoes and stockings, which have become heated and charged with perspiration. Nothing can be more "grateful and comforting" (always excepting, of course, Fry's cocoa) to a tired person than a sponge down, a warm foot-bath, and an entire change of clothing.

Powders in Jam.

THERE are two reasons against giving children powders in jam. First, jam makes a more bulky dose than a little soft sugar slightly moistened in a teaspoon; second, children sometimes acquire a life-long abhorrence of the particular jam in which they used to get their powders. Was yours raspberry, or red currant?

Lazy Gardeners,

abandon "weed-killers," and pluck up your weeds by the roots as in the days of your fore-fathers. Several terrible accidents have occurred this summer from this new invention of the devil. In one of them, some "weed-killer" composed of an alkaline solution of arsenic had been left in a dish for some time. The dish was afterwards washed with hot and cold water, then used for cooking some meat in an oven. The meat caused symptoms of poisoning in three persons who ate it, one case ending fatally on the second day. An analysis of the dish in which the meat was cooked showed that it contained an appalling quantity of arsenic, between two and three hundred grains, which had soaked into it through pores or cracks in the glaze.

If you Smell Gas, don't—

DON'T strike a light, or there will be an explosion. Open the doors and windows at once, turn off the gas at the meter, and wait until the smell has gone. The cause of the leakage can then be found without danger of either suffocation or explosion.

Hint to Children.

IF baby takes fire, wrap him in the hearthrug or an old coat. That keeps out the air, and thus kills the fire, which cannot live without air. If you take fire yourself, do not rush into the air, but roll yourself up where the air cannot reach you. Any rug, blanket, carpet, or thick coat will do. Muslin or muslin curtains will not do; there is too much air between the threads.

The Boiling of Milk.

As the result of some most interesting experiments, Dr. Chamouin has been able to show that milk after boiling is not only more easily digested, but has actually a higher nutrient value than in the crude state. Our authority fed a number of kittens on boiled milk, and an equal number of kittens on the same milk as it came direct from the cow or the goat. Those of the former category he found to be twice again as fat and healthy as those of the latter. A kitten, however, which was left to its mother was the fattest and healthiest of all, though this was due to the assiduous attention which the maternal instinct supplied, and which the experimenter pleasantly admits is beyond the resources of the laboratory. Following up his demonstration, Dr. Chamouin examined the statistics officially issued by the Town Council of Paris as to infantile mortality, and finding that the chief cause of this was intestinal ailments, he prosecuted his researches so as to include a comparison between those infants that had been fed on boiled, and those that had been fed on unboiled milk. He found a remarkable diminution in the death-rate of the former. His investigation also showed that thousands of infants are annually safeguarded from intestinal disease and death by boiling the milk on which they feed.

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

AUTHOR: "I was not meant for an author, I am sure, but a chemist." Wife: "Why, dear, what makes you think that?" Author: "My best books are always a drug in the market."

MISTRESS: "What else did the doctor say; did he leave any instructions?" Mary: "He said you was to give the baby an interjection."

RUBY (aged five): "Shirley, who invented girls; was it the Queen?" Shirley (aged nine), contemptuously: "The Queen! no, they weren't invented, they were discovered."

DRUG CLERK (to sceptical customer): "You need not be afraid that I shall make any mistake. I am too careful to do so. If I find that I do not understand a prescription I invariably put up a little mixture of my own of plain soda, chalk, and lemon juice—which is harmless."—*Harper's Bazaar.*

READY FOR THE EMERGENCY.—Patent Medicine Manufacturer: "Doctor, don't you think you could discover a new disease?"

Doctor: "Discover a new disease! What on earth should I do that for?"

P. M. M.: "Because I have a new patent medicine which is the very thing for it."—*New York Herald.*

"Is the doctor in?" asked a tramp at the door of a New York physician recently. A few minutes later an oldish female came to the door. "I just wanted to see if the doctor wouldn't give me a pair of his old pants," said the tramp. "I'm the doctor," replied the lady. The tramp had several attacks of vertigo as he dropped down the steps.

"AMONGST other inquiries this week," says a Leicester correspondent, "I find the following:—Oil of varments, salts of sorrow, sweet essence of summer, harmonium, ever-fizzing magnesia. So far it has been plain sailing, but when a lad came in for a pennyworth of hi-tiddley-hi-ti's, I felt non-plussed. Is this some new kind of sweetmeat?"

DON'T YOU FORGET IT.—"Doctor," said the grateful patient, seizing the physician's hand, "I shall never forget that to you I owe my life."

"You exaggerate," resumed the doctor mildly, "you owe me only for fifteen visits. That is the point which I hope you will not fail to remember."

THE BRASS ASS CURE.—The *Journal of the American Medical Association* tells a tale of a traveller from Pekin, who says "that he saw a method of cure which may be new to some of our readers. In a temple outside one of the city gates is to be found a brass mule of life size, supposed to have wonderful healing properties. Patients suffering from every imaginable disease seek this temple to obtain a cure. The method pursued is as follows: Supposing you suffer from sciatica, you go with all speed to this famous temple, and having discovered the particular part of the brass mule corresponding to the painful region of your own body, you first rub the animal a certain number of times, and then with the same hand shampoo your own disabled member, and then—well, then the pain goes. The special feature of this method of cure is its delightful simplicity. Is your tooth aching? Just scrub the mule's teeth and afterwards your own, and, *viola!* the cure is complete. Have you an ulcer of the cornea? Pass the tips of your fingers to and fro over the particular eyeball of the mule, and then with well-regulated pressure rub repeatedly the afflicted eye. The mule has unhappily lost his sight during the many years he has been engaged in his benevolent work, the eyeballs, we are told, having been gradually worn away as the result of constant friction, until now you have only the empty orbits to operate upon. The animal is patched in all directions with fresh pieces of brass put on to cover holes produced by the constant friction of eager patients, and a new, perfectly whole mule stands ready at hand awaiting the day when his old colleague, having fallen to pieces in the service, shall give him an opportunity of likewise benefiting posterity."

IMPROVED PRODUCTS.

KEPLER SOLUTION OF COD LIVER OIL IN MALT EXTRACT.

"Taste of the oil agreeably disguised, its nutritive powers greatly increased, and it is rendered easy of digestion."—BRIT. MED. JOUR.

Patients grow fat upon it when other forms of oil cause distress and pain.

Supplied in ¾-lb. and 1½-lb. bottles.

KEPLER EXTRACT OF MALT.

A delicious concentrated, nutritious, digestive food for Dyspeptics, Invalids, and Infants. THE LANCET says: "It is the best and most largely used." The consumptive's best resort. It is the best substitute for cod liver oil.

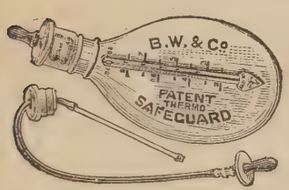
Supplied in ¾-lb. and 1½-lb. bottles.

DIALYSED IRON (B., W., & CO.)

A pure neutral solution of Peroxide of Iron in the colloid form. Does not injure the teeth nor constipate. It is a preparation of invariable strength and purity, obtained by a process of Dialysation, the Iron being separated from its combinations by endosmosis, according to the law of diffusion of liquids. It affords, therefore, the very best mode of administering Iron in cases where the use of this remedy is indicated.

Supplied in ¼-lb. and 1-lb. bottles.

THE PATENT THERMO-SAFEGUARD FEEDING BOTTLE



Is the safest and most perfect in existence, and enables the nurse to ascertain at all times the quantity and temperature of the food given.

"The bottle has a great deal to recommend it."—BRIT. MED. JOUR.

"The best of all feeding bottles, and ought to be universally used."—EDIN. MED. JOUR.

ZYMINE PEPTONISING POWDERS (Fairchild).

One tube added to a pint of cow's milk so predigests it that it will no longer form a curd to irritate and inflame the infant or invalid stomach. They render cow's milk precisely like mother's milk.

"The introduction of which has probably done more than any other therapeutic measure of recent times to lessen infant mortality."—BRITISH MEDICAL JOURNAL.

Admirably adapted for use with the Thermo-Safeguard Feeding Bottle. Supplied in boxes containing 12 Tubes.

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Is given internally in the form of Capsules, Pills, or Tabloids, in chronic skin diseases—as eczema, psoriasis, red nose, etc. It may also be applied as an ointment made with Lanoline to the parts affected. A small quantity of Ichthyol well rubbed into the parts in muscular rheumatism, or along the course of the sciatic nerve (in sciatica), will quickly relieve the pain. The ointment made with Lanoline is probably the best application for burns and scalds known.

Ichthyol, in ½-lb., 1-lb., and 2-lb. tins; 1-oz. bottles.
Ichthyol Capsules (4 min. in each), in bottles of 50.
Ichthyol Pills (1½ gr. in each), in bottles of 100.
"Lanoline" Ichthyol Soap.
Ichthyol "Tabloids," in bottles of 24 and 100.

ZYMINISED MEAT and MILK SUPPOSITORIES for Rectal Alimentation.

Physiologists are unanimous in condemning GELATINE as a basis for peptone suppositories, for this mixture is one of the best culture-media for BACTERIA, therefore we have prepared these suppositories with pure peptones and COCOA BUTTER; they are easily introduced, perfectly absorbed, never cause intolerance, and ARE PERFECTLY STERILE.

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Zyminised Meat and Milk Suppositories are supplied in boxes of 1 dozen.

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Contains a large amount of diastase and natural mineral phosphates, and a considerable amount of tissue-forming substances. *The immense superiority of this preparation over ale and stout* is at once apparent. This Essence is therefore an ideal aid to digestion and nutrient agent. A wineglassful of the Kepler Essence of Malt contains more elements of nutrition than a pint of the finest alimental stout.

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A colourless distilled product, containing the volatile active principles of the fresh green twigs and leaves of the Witch Hazel.

Witch Hazel Plant.

PROPERTIES.—*Hæmostatic*, *Anodyne*, and *Astringent.*

Prescribed in cases of hæmorrhage from the nose, lungs, womb, rectum, etc. Is a valuable agent in the treatment of wounds, sprains, inflammation, peritonitis, piles, fistula, anal fissures, ulcers, varicose veins, eczematous surfaces, tonsillitis, pharyngitis, nasal and post-nasal catarrh, stomatitis, leucorrhœa, nasal, polypi, etc.

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Dose for irritated or inflamed throat and lungs, half to one teaspoonful occasionally.

Supplied in ¼-lb. and 1-lb. bottles.

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This ointment is of cream-like consistence, and combines the anodyne and astringent properties of Hazeline with the soothing and emollient action of Lanoline. For internal piles it may be employed with the Ward Cousins' Ointment Injector.

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BEEF AND IRON WINE (B., W., & Co.).

This preparation contains all the stimulating properties of Beef with Citrate of Iron in a pure medicinal wine. Is palatable, elegant in appearance, and can be frequently taken by patients when Iron in any other form cannot be borne. As a resuscitating agent during convalescence from acute disease, and wherever a useful stimulant and tonic is indicated, the Burroughs Beef and Iron Wine will afford every satisfaction.

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Back Numbers for Binding.

So great has been the demand for our September issue, on account of the long article on "Preventive Disinfection," which gave explicit directions for private people who wished to maintain their homes in a sanitary state, that the price of that number has increased while it lasts to threepence per copy. All other back numbers (except that for September 1891, which is out of print) can still be obtained at the usual price, 1d. each. We would urge those of our readers who wish to bind the *Health Messenger* for permanent reference, to look over their file and secure any missing numbers at once. Our present volume will be completed with the *December issue, which will contain a full index.* We therefore ask our readers not to bind until that number appears.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

CHOLERIANA.

Now that the immediate danger is past and panic is allayed, it may be profitable to look the facts in the face fully and squarely.

* * *

HAMBURG is the great object-lesson of the whole world, instructing both what to do and what to avoid, in view of the probable return of cholera next year. Nearly 18,000 cases in that city within six weeks, with 7536 deaths in the same period, are surely enough to rouse the most apathetic into sanitary vigilance.

* * *

IN the week ending September 10th the death-rate, which in London was 16, reached in Hamburg the enormous figure of 234 per 1000 per annum.

* * *

AT Buda-Pesth the epidemic is still growing, while in St. Petersburg, Paris, Hamburg, and other cities it is dying down.

* * *

AN ominous sign, however, is to be seen in Belgium and Holland. Stray cases are occurring

at places somewhat widely apart; and notwithstanding the reputation for cleanliness held by these nations, we fear that all their efforts will be required to ward off a widespread epidemic next year, even if cases do not continue to arise during the winter months.

* * *

THE peculiar danger for Belgium and Holland lies in their complete system of canals. It is well known that the outbreaks at Hamburg, Paris, and Buda-Pesth, however they originated, were almost exclusively spread through the use of river water, which had become polluted with infectious matter. Now this danger is accentuated in the two small States by the sluggish waters of the canals, which are not nearly so rapidly swept into the sea as rivers are, and hence retain the infection longer. In the last epidemic of cholera, Belgium and Holland, small as they are, suffered a mortality of 50,000, and if they would escape lightly next year they must rigidly guard their canals from the slightest pollution. Low-lying ground, where cholera has occurred, should be purified by fire. Make bonfires of the huts and hovels where cases arise, and recompense the poor inhabitants; this will be a measure of the wisest and most benevolent economy.

* * *

THE warning we gave last month as to the probable return of cholera next year has been accentuated since then by Surgeon-General Cornish, in his introductory address at the College of State Medicine.

ALL EPIDEMICS SIMILAR.

He says:—"All cholera epidemics, whether in India or Europe, have certain definite features as to time and place. There is in every case a period of invasion, a period of rekindling or recrudescence, and a period of decay, and these periods are usually completed within three years, when the contagium, or morbid material, appears to have exhausted its powers of reproduction, or for some other reason ceases to be active. Late information shows us that cholera was prevalent and fatal in Northern India about the end of 1891. It was certainly prevalent and fatal at the Hurdwar pilgrim gathering in March and April of the present year. It passed on to Cashmere in May, and seems to have been most deadly in Afghanistan in April and May, from there to Persia in May and June, and crossing the Caspian Sea by trade routes it spread very generally throughout Asiatic and European Russia, and, attacking the German port of Hamburg in August, has, as the daily press keeps us informed, been carried to our own shores, and with almost the same rapidity across the Atlantic. It is the peculiarity of an invading epidemic to push on rapidly through new or uninfected populations. The movement is influenced by season and probably largely by temperature, for it never seems to be able to accomplish much headway during periods of frost and snow, but in the portion of country invaded by cholera seasonal changes bring about a revitalisation, or renewal of activity, and the epidemic may be more diffused or general in the second than in the first year of its introduction."

WILL IT RETURN?

He goes on:—"With an epidemic so widely diffused, it may be asked—Is it not possible that the germ or contagium may be exhausted in a single season, and that there may be no recrudescence in 1893? One would like to believe in such a possibility, but such belief would be in direct variance to the recorded history of previous epidemics of invasion which have not so quickly exhausted themselves. We are still very ignorant of the intimate nature of the cholera poison, but successive waves of epidemic invasion have taught us this much, that while no two epidemics are precisely alike in all points, yet in their main features there is very little difference between one epidemic and another. As cholera makes itself evident to us in one epidemic, so it will do in the next and the next, and from this peculiarity of the disease it is quite safe to anticipate that cholera, invading a locality in any one year after a long period of absence, will not absolutely leave that locality in the season of its invasion, but will remain to be revitalised, increasing or decreasing in accordance with surrounding conditions; so that those who look forward to seeing Europe clear of cholera in 1892 base their anticipations on some hazy notions in their own minds, and not on historical data. To have a clear perception of this feature of cholera is all important to sanitary officials. It teaches them that vigilance and precautions cannot be safely relaxed on the temporary cessation of local outbreaks, and that the measures necessary for the protection of the public health will have to be persevered in steadily while there is the possibility of an epidemic revival."

STEADILY, STEADILY.

STEADILY, therefore, throughout the winter and spring months, must we purify, purify, purify our surroundings, although not a trace of the enemy may be seen. The story of the wise and foolish virgins will inevitably be repeated by some apathetic people and states, but if the public health bodies and officers maintain a wise vigilance, and if private people adopt widely such preventive sanitary measures as we indicated in our last issue, the grave danger, if not entirely averted, will be minimised.

GENERAL NOTES AND NEWS.

VIGILANCE seems to be unusually required at present. No sooner are we about to be rid of one scourge than another looms up. The "Black Death," according to some Russian papers, has been visiting Turkestan, and in the district of Askabad, out of a population of 30,000, it has carried off in six days no less than 1303 persons.

* * *

TYPHOID AND DRINKING WATER AGAIN.—An epidemic of typhoid-fever has broken out at the village of Easington, county Durham, with fatal results. The disease has been traced to the water supplied from a public well. This water has been analysed, and is reported "green in colour and turbid, full of mineral matter, moving organisms of repulsive type, myriads of bacteria, and decomposing vegetable matter." A magistrate's order has been obtained, and this and two other wells have been closed.

THERE is an impression that, unless for immediate drinking purposes, water does not require to be filtered. We have previously shown that the washing of dishes in impure water is attended with danger, but at Leicester an epidemic of typhoid has been traced to herb beer made from unfiltered water.

* * *

SPEAKING of Leicester, the city of anti-vaccinators, we observe that small-pox has made its appearance there. We most sincerely trust the somewhat tardy precautions of the governing bodies will prevent the district becoming an object-lesson in vaccination to the country.

* * *

BY the way, not only does vaccination require to be repeated at the approach of small-pox, but it should be efficiently accomplished. "Some time ago the surgeon of a small-pox hospital was asked to give his observations of the result of vaccinated patients whom he had treated. He found, during his twenty-five years' experience of 6000 cases of post-vaccinal small-pox, that the percentage of deaths was (1) $21\frac{3}{4}$ in the case of persons vaccinated but having no vaccine cicatrix; (2) $7\frac{1}{2}$ per cent. having one cicatrix; (3) $4\frac{1}{8}$ having two cicatrices; (4) $1\frac{3}{4}$ having three vaccine cicatrices; and (5) having four or more cicatrices, $\frac{3}{4}$ per cent.; whilst unvaccinated amounted to $35\frac{1}{2}$ per cent. There seems to be a growing objection to vaccination in some quarters; it would be well if actual statistics on this point were more fully known." —*Hospital.*

* * *

SCARLET fever still grows apace in London. With 3500 cases in the hospitals, and as many more outside, parents and governors are having a lively if anxious time. Fortunately the type is mild, and the percentage of deaths remarkably low.

* * *

DURING the football season of last year we strongly urged the teams—Rugby especially—to retain the services of a qualified and experienced surgeon for attendance at every match. As the present season promises to beat the record of last in the chapter of accidents, we again respectfully commend the matter to the speedy attention of the officers. There are many gallant ex-half-backs in the profession who would be proud to include in the list of their appointments "Football Surgeon to the Blankshire County Team."

Wintering Abroad.

The Lancet warns those whose health requires them to avoid the cold and fogs of an English winter, not to depart too soon. October is too early for Algeria or Egypt, and even on the Riviera it is often the wettest month of the year. The invalid should break the journey by a short residence at one of our southern English watering-places, and choose the early days of November for the flight to the "sunny south." The return, on the other hand, should not be precipitate. May is usually bleak, especially in the northern half of our "tight little island." Therefore it is safer to break the journey—say in Switzerland—before subjecting the weakly constitution to the rigours of our English summer.

Vital Statistics during the Week ending 1st October 1892.

CITIES AND BOROUGHS.	POPULATION.	Births.	Deaths.	Annual death-rate per 1000.
33 TOWNS	10,188,449	6072	3236	16.6
London	4,263,294	2464	1245	15.2
West Ham	217,113	134	80	19.2
Croydon	106,152	46	15	7.4
Brighton	116,424	51	25	11.2
Portsmouth	163,667	84	33	10.5
Plymouth	85,610	36	26	15.8
Bristol	223,592	114	52	12.1
Cardiff	136,181	83	51	19.5
Swansea	92,344	48	23	13.0
Wolverhampton..	83,519	54	32	20.0
Birmingham	483,526	320	147	15.9
Norwich	102,736	58	24	12.2
Leicester.....	180,066	105	44	12.7
Nottingham	215,395	104	74	17.9
Derby.....	95,908	53	24	13.0
Birkenhead	101,264	75	26	13.4
Liverpool	513,790	373	200	20.3
Bolton.....	116,261	61	44	19.7
Manchester	510,998	346	210	21.4
Salford	201,058	142	84	21.8
Oldham	134,221	82	39	15.2
Burnley	90,589	58	34	19.6
Blackburn	122,238	79	55	23.5
Preston	109,038	73	45	21.5
Huddersfield	96,599	45	37	20.0
Halifax	84,097	45	27	16.7
Bradford.....	219,262	106	66	15.7
Leeds	375,540	221	128	17.8
Sheffield.....	329,585	233	127	20.1
Hull	204,750	118	86	21.9
Sunderland	132,839	82	53	20.8
Gateshead	88,588	47	26	15.3
Newcastle	192,205	132	54	14.6

A LIVERPOOL paper contains a very alarming account of the water in the Salford Docks. The chemist to the Local Sanitary Association stated that the dock water contained $42\frac{1}{2}$ grains per gallon of solid matter, of which six grains were organic matter. The Manchester and Salford rivers seem to be nearly as bad; in dry weather it is stated that the water of the Irwell consists half of sewage. The Salford docks are constructed with their outlets facing down-stream, and of course will have no scour. Their water will be absolutely stagnant, except from the stirring it will receive from vessels.

NOTES ON NOVELTIES.

A Sick-room Luxury.

"FRAGRANCE" is the title of a refreshing perfume specially prepared for the sick-room by Mr. Preston, High Street, Sheffield. It is used for bathing the temples, for spraying the room, and for every other purpose to which Eau de Cologne and Toilet Vinegar are now put. We have practically tried it, and find it delightfully refreshing.

Braided Steel Wire Pillows.

SOME time ago we drew attention to these cool and airy bedfellows. They are now largely adopted in hospitals for infectious diseases, as they can be so easily disinfected and thoroughly cleaned. For permanent invalids we can hardly conceive of a greater boon, as they are light, springy, and comfortable, and likely to prevent the formation of bed-sores.

Vegetable versus Animal Underwear.

WE have previously had occasion to speak of the fads and fashions in regard to dress, over-dressing and under-dressing, dressing in woollen or linen. We are not, therefore, surprised that cotton-wool underclothing is now put forward as advantageous in many ways. Indeed we are rather astonished that it has not sooner been thought of. By Dr. Lahmann, who first had it manufactured for his patients, "It is not pretended that it will save the soul, although it may save the wearer many an unholy exclamation to which a shrinking or irritating garment might have given rise; but it does pretend to protect against chill and rheumatism as no animal wool ever did, and at the same time to be the most comfortable underwear both in heat and in cold, as shown by both Indian and Canadian testimonials. It is soft, porous, absolutely non-shrinkable and non-irritating, pure and clean, more durable, and much less expensive than animal wool." The reasonable way in which the idea is put forward, without abusive and extravagant invectives against "all-woollism," should incline our readers to give it a trial, which they can do, seeing an agency has been formed in London for its introduction into this country.

The Healthy and Wise.

WHENEVER any organ of the body does not do its work spontaneously and automatically something is wrong, and it remains a serious question as to whether we shall do most harm by leaving it alone to wise Nature, or stimulating it into activity by art of medicine. The healthy have automatic stomachs and automatic consciences, which, without the interference of their will, act upon the materials and the circumstances respectively submitted to them. The healthy and wise should add to their household appliances one or more of Austin's Automatic Disinfectors, which are porous cylinders filled with some soluble permanganate. When placed in water, a small quantity of this disinfectant is discharged through the pores of the cylinder. Thus, if one is placed in the cistern which supplies the water-closet, every time the pan is flushed it is disinfected as well; and as the makers affirm that a cylinder thus placed will last for a year, it is greatly to the interest of householders to avail themselves of this excellent appliance of modern science.

A New Method of Producing Artificial Respiration

has been discovered by Dr. Laborde, of Paris. It consists in drawing the tongue well out of the previously opened mouth and then imparting to that organ energetic and rhythmic backward and forward movements. This manœuvre has the effect of stimulating the respiratory reflex through the traction on the tongue and the excitation of its basal portion. The *modus operandi* is very simple. A spoon, the handle of a knife, or any such instrument is utilised for the double purpose of keeping the jaws apart and pressing on the base of the tongue. The tongue is then seized between the finger and thumb — which, to avoid slipping, are enveloped in a handkerchief — and pulled forcibly forwards out of the mouth. The organ is then subjected to the rhythmic to-and-fro movements, eighteen to the minute, until success crowns the operator's efforts. Whilst advising recourse to the methods usually employed, Dr. Laborde believes, as the result of having saved two lives by means of it, that his own proceeding is the most effectual, and that it will often succeed even when all hope is apparently fled.

THE Kapillarhebermikroskopirtropfenflasche is the name of an apparatus for dropping fluid used in microscopical work, described by Professor M. W. Beyerinck in the *Centralblatt für Bacteriologie und Parasitenkunde.* The author is, however, not obstinate in his partiality for the name, and obligingly proposes Kapillarheberbakterienkulturkölbchen as a substitute for those who think the other is too long.—*New York Medical Record.*

THE STAFF OF LIFE.

By the Editor.

Last month, at the conclusion of our instalment on this subject, we hoped to present to our readers in the present issue a description of the latest, and what we consider the most likely invention whereby the millions might obtain the full vital strength contained in the bran, while still continuing to use white bread. Although the experiments are quite complete, and the highest results already attained, we are compelled, unwillingly, to ask our readers to wait at least another month before we give full information. The question is a large and vital one, affecting millions on the most important subject of their health, and we print on page 235 an article which recently appeared in a contemporary, showing something on both sides of the argument. Curiously enough, our readers will see that we agree with both, although they appear to be opposed.

CAUTION AND COWARDICE IN THE AVOIDANCE OF DISEASE.

By the Editor.

There are few errors to which the human race is more prone than that of overlooking the "golden mean." Our loves and our hates, our hopes and fears almost entirely originate in our feelings, and as these are not always swayed or corrected by reason, our actions are apt to be mistaken in direction or extravagant in quantity. This is seen very clearly in the "scare" which recently spread abroad at the approach of cholera. We do not mean that the precautions taken were either unnecessary or over-strained, but, as we pointed out last month, equally comprehensive measures should be taken against every infectious disease. But because cholera appeals to the imagination and "feelings," while measles does not, we complacently pooh-pooh the latter, even when we know that it slays its thousands where cholera is content with tens.

The question, however, which we wish to press forward just now is this: What attitude should every-day people adopt in the presence of an infectious disease? There are two extremes to be touched upon before we point out the "golden mean." There are robust wretches who go about boasting that they never take any precautions and have never had the felicity to make the personal acquaintance of any Microbe of infectious tendency. Doubtless their immunity lies in their excellent health, which also goes far to make a fearless mind. (We should like to point out, however, that these same people, when they do pay the penalty of their carelessness, generally cry out louder than their more feeble brethren.) On the other hand there is the poor valetudinarian, who, during an epidemic of influenza, is terrified to meet a fellow-creature on the side-walk, who flies at the sound of a sneeze, and who is encumbered in his daily avocation, if he has any, with an array of specifics to sniff, spray, inhale, eat, drink, or wear—too numerous to mention. Now it is commonly believed that abject fear predisposes persons to cholera and other maladies, and there is good grounds for the inference. But, as we pointed out that the immunity of the robust fearless person might lie more in his physical robustness than in his fearlessness, or rather that the latter was a result of the former, so may the converse hold good of the feeble, timid-minded. There is always, however, a margin of purely moral control which can be exercised even by the weakest, and which reacts favourably upon the condition and susceptibility of the body. If we accept it as a fact, therefore, that fear makes us more liable to infection, and resolutely calms our nerves in the presence of danger, we shall certainly be the better and safer for it. Nerves, however, cannot be stilled at a word of command. Uncertainty as to how the danger approaches, and what are the best precautions to take—these are the usual accompaniments of fear;—in other words, ignorance and terror usually go together. In order to banish these we must enlighten the understanding and impart a higher moral purpose than exclusive self-protection. How is it

that doctors and nurses, who are daily and hourly steeped, as it were, in infection, so rarely fall victims to the maladies of their patients? Simply because they accept the danger as part of their daily duty, and take the precaution of scrupulous cleanliness. For the latter reason also, it is almost an unknown thing for medical men to carry a disease from one patient to another household.

This will give some idea of the extent to which caution should be carried. It would be rash for a mother to nurse a neighbour's children in measles, and straightway return to the embraces of her own family. She has others to think of who are particularly susceptible, coming into the closest relations with her. Another person without the same ties might, under certain circumstances, find it her solemn duty to help such a neighbour in distress. Cases require to be judged differently. It is difficult to lay down a rule which shall be applicable generally, but as nearly as possible here it is :—Learn the full danger, and the best means of resisting it other than flight. Do not needlessly seek but rather avoid it, unless, after calm deliberation, duty and humanity call you. Then, taking every precautionary measure, enter heart and soul into the service of the suffering, and do not give another thought to your personal safety. Life is sweet, especially to the young, and whether it be sweet or bitter, it is wrong to run any needless risk. But, after all, the world is but a stage, in which we play our part only once; and whether we strut about upon it for a little longer or shorter time is not in itself the prime motive of the play. If, in the part that is allotted to us, we have to enter a scene of danger—such is life. If we come through it, well; if we fall, well—we have played our part. As a matter of history, the snivelling coward sometimes does, because of his cowardice, outlive the hero, and we need not grudge him the privilege. But in the matter of disease, it is the coward who has the chances against him; therefore it is policy to be fearless.

PUBLIC HEALTH PAPERS.

(Continued.)

By Charles J. Russell McLean, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Fellow of the Society of M.O.H.; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. IV.—FOOD.

By the term "Food" we mean everything that is ingested or taken into the body to provide for its growth, nourishment, or repair, and for the production of the various forms of energy, such as heat, muscular-force, or nerve-energy, etc.

Food, whether of an animal, vegetable, or mineral nature, is divided into the following classes :—

1. Albuminoids.
2. Fats.
3. Carbohydrates.
4. Salts.
5. Water.

Let us look a little at each of these classes, so that we may the more correctly understand what is meant by the expression "Food."

1st. *Albuminoids* form the so-called nitrogenous foods, because of the constant presence of nitrogen. The following are examples :—Albumin in white of egg, caseine in cheese or milk, glutin in wheat (flour), and so on. Gelatine and kindred substances are also included in this class, but are not so important from a food standpoint, seeing that the nutritive value of gelatine (*e.g.*, calves' foot jelly) is only about one quarter that of albumin. All these substances when taken into the stomach are changed by the pepsin and various juices into other soluble compounds, which are absorbed, and circulating through the body, nourish and repair the tissues, and also aid the fats in the production of heat and muscular force. Their presence is absolutely essential in a healthy diet.

2nd. *Fats* contain no nitrogen, but are composed of carbon, hydrogen, and oxygen.

Examples of this class are the various animal and vegetable fats (*e.g.*, beef or mutton fat) and oils (*e.g.*, olive or salad oil, cod-liver oil). They are necessary in a healthy diet in order to produce heat and muscular force, and to aid excretion of effete matter. The Icelander and inhabitants of the cold northern regions use large amounts of oil and blubber in order to produce the extra heat they require, the inhabitants of tropical regions using little or none.

3rd. *Carbohydrates* are also composed of carbon, hydrogen, and oxygen, but in different proportion to that in fats, there being much less oxygen in fats than in the carbohydrates. Examples of this class are sugars and starches, such as are present in bread, rice, arrowroot, and such like. They are not nearly so nutritious as fats are, nor are they so essential; they are almost absent from the diet of the Icelander. Their function is to aid in the production of heat and energy.

4th. *Salts*, such as lime, potash, and soda, are indispensable for the growth of the various tissues. Iron is also necessary to form blood, and besides these many other salts are present. Soda is mostly used in the form of common table salt (NaCl).

5th. *Water* is said to be present in every tissue of the body, and to form about two-thirds of the total body weight. Its function is to dissolve the various food stuffs, and carry them in solution through the body, to carry off effete matters, and to regulate the heat of the system.

Dietaries.—To perform a moderate amount of work, the following would be a sufficient quantity of each of the above classes per adult daily :—

Albuminoids	4½ ounces.
Fat	3 ,,
Carbohydrates	15 ,,
Salts	1 ,,
Total	23½ ,,

This would contain about its own weight of water, and, besides, about 60 ounces more would be drunk in some form or other—in all about 100 ounces a day.

Women require less than men, and a child of ten years about half as much as a woman.

Milk contains all the above classes in proper proportion for infants (if cow's milk is used, water and sugar—preferably sugar of milk—require to be added), and would maintain life in an adult if 8 to 10 pints a day were drunk; but as this would contain an excessive amount of water and fat, it would not agree very long, though for the growing infant these are the substances required.

Vegetarianism, if strictly followed, provides too little nitrogenous matter; but most so-called vegetarians do not hesitate to use animal food in the shape of butter, milk, eggs, and cheese, and so provide extra albuminoids. It is doubtful if any one could subsist on a purely vegetable diet, and at the same time retain his health and vigour.

A mixed diet is the proper one for health.

Digestion.—Different articles vary in their digestibility, according to their hardness and nature, and also on the cooking; rice and tripe digesting and leaving the stomach in an hour or little more; roast beef in three hours; whereas such articles as pork or cheese would probably not leave the stomach for five hours or upwards.

Diseases due to Diet comprise those from—

1st. *Excess of Food*, such as dyspepsia, constipation, headache, kidney, and liver complaints, and sometimes, though not necessarily, gout. Again, excess of fat may lead to fatty deposits under the skin, or round the heart.

2nd. *Deficiency of Food* leads to emaciation, depression, and general weakness, with wasting of all the tissues, the fat being the first to go, and then follows a predisposition to such diseases as anæmia, inflammation of the lungs, and all the fevers, especially relapsing and typhus, which are seldom seen in well-nourished, healthy people.

3rd. *Improper Food*, such as bread and other starchy foods, cause rickets amongst infants; or, again, scurvy, which used to be so common amongst sailors, was due to using too much salt meat. This is now rarely seen, because of the many methods of preserving food; the more abundant use of vegetables, and also because the law orders every one at sea over ten days to receive an ounce of lime juice daily.

(*To be continued.*)

CHEMISTS' PRICES.

EVERY jocular young reporter considers the chemist's profits as a fit subject for humour. Yet it is remarkable that very few chemists —much fewer than grocers, drapers, and other tradesmen—ever make a competency; and amongst the few who do, it will be found that something outside the "shop" has materially assisted the result. Even the large storekeeper, who is supposed to compete, only succeeds by renouncing the very possibility of being a chemist. He really alters his business into that of a grocer, and he would probably succeed quite as well—and the public would be doubtless safer—did he call himself by that name.

It is the business of the chemist, with that care, security, and exactness which only a life-long training can give, to prepare and dispense compounds upon which health and life in great measure depend; and to entrust their preparation to a grocer is like sending your watch to be mended by a blacksmith. Moreover, to expect a bottle of medicine for the price of its bare ingredients is to exhibit an ignorance of the skill required, which is highly dangerous to the invalid.

Even amongst chemists, prices may vary, just as the price of a dinner or a gown may vary. The people who appreciate a joint of good beef, well cooked and appetisingly served, are quite disposed to pay for these advantages, rather than have twice the quantity at half the price served in another establishment, and in another manner. Now, the difference between a good dinner and a bad one is as nothing to differences in medicine, which is given at a time when the body is peculiarly sensitive and weak, and which is expected to have an exact strength and composition, neither weaker nor stronger, and to have a definite and reliable action.

(*To be continued.*)

QUERIES AND COMMENTS.

CONDY v. PERMANGANATE.

67 and 68 Turnmill Street, London, E.C.

To the Editor of the "Health Messenger,"

24 Warwick Lane, Paternoster Row, E.C.

SIR,—Our attention has just been directed to a very comprehensive article on the subject of "Preventive Disinfection," which appears in your issue of 15th inst. Will you kindly allow us a little space to correct a misleading remark which is to be found in the paragraph relating to the water-supply? In division 5, it is inferred that permanganate of potash and Condy's Fluid are the same. The potassic salt, which is comparatively poor in oxygen, is not one of the ingredients of Condy's Fluid, as any one may easily ascertain by evaporating a little of our preparation and examining the residue. The similarity in colour between the different permanganates has led many persons into the same error.

Yours faithfully,

For CONDY & MITCHELL (LIMITED),

H. J. BOLLMAN CONDY.

[When we quoted the terms "permanganate of potash, or Condy's Fluid," in the paragraph referred to, we understood them to be used in the sense of "take your choice" between the two. We are perfectly aware they are not quite the same, although the popular and commendable use of that class of disinfectants is due to the publicity given to Condy's Fluid—the pioneer of permanganates.—ED.]

RAMESEY'S "WORMS."

To the Editor of the "Health Messenger."

Epworth, Sept. 26, 1892.

SIR,—Your interesting article, "Of worms, etc.," suggests a query or two concerning William Ramesey or Ramsey. Who was he? Of what works was he the author? I have a little book of his (without title-page), "Of Poysons, with their severall antidotes," etc., which, though not quite so racy in style as the volume which occasions your article seems to be, is nevertheless quaint and interesting enough. In the "Epistle Dedicatory" of this treatise on poisons Ramsey refers to several other of his works "yet in manuscript and not condemned to be prest;" as, for instance, to one with the title "Astrology Restored," and another somewhat formidably named "Flagellum Empericorum." These should be brave works. Were they ever printed?—I am, etc.,

C. C. BELL.

P.S.—Ramsey, by the way, seems to have been a student of Robert Burton. The tirade against improper marriages, which you quote, is evidently modelled on the famous passage in the "Anatomy," part 3, sec. 2, mem. 6, subs. 2.

[Ramesey published in 1653 his "Astrologia Restaurata, or Astrology Restored, being an introduction to the Language of the Stars." It is a delightfully orthodox treatise in four books, and gives clear directions as to the suitable times and seasons for performing all manner of business; for instance, the "rules of elections on the cutting of hair." Thus the injunction of late, so commonly given by one friend to another, would by Ramesey have been rendered—

"If moon and planets favour,
Get your hair cut."

There are also chapters instructing "of building castles, of buying and selling to advantage, of giving in marriage," and of all other mundane affairs.

We have not come across the "Flagellum Empericorum," nor do we know if it was ever published,

although the author's opinions as to the "more then ordinary abuse of that most noble art of phisick by Illiterates, Quacks, Mountebanks, and Empericks" made him quite the man to undertake the flagellation. The book "Of Poysons," to which Mr. Bell refers, is a charming discourse, the scope of the work being as much confined to the titular subject as that on "Worms." The author diverges from the route of mineral poisons, such as "arsnick," into the pleasant ways of "Bees and mad-doggs, scorpions, serpents, bull's blood, and cantharis;" also the "Evil Eye, venemous vapours, atomes, or other spirituall venemous qualities as are joyned there unto." Ramesey's other works are "The Gentleman's Companion," "Lux Veritatis, or Judiciall Astrology Vindicated and Demonology Confuted," "Vox Stellarum, or the Voice of the Starres," a work on eclipses, and several other smaller works.—Ed.]

A Subscriber.—We are taken to task for having mentioned in our last an improvement in tobacco pipes. We did not recommend our readers to smoke; we even implore them (puff)—especially if they be of the gentle sex (puff)—to use their influence against the use of the pernicious weed. But to the millions who do and will smoke we say, do so under the best possible hygienic conditions. Use a pipe which, like the "Biltor," filters the smoke and abstracts from it the hurtful juice.

Boiled Milk.—We grant that it is not so palatable, unless sipped very hot; but you must take your choice in this matter between safety and palatability. We agree that if your dairyman be careful and intelligent and honest, cold milk would be safe.

About half a pint of water is thrown off by the lungs every half-hour.

A pound of coal yields enough magenta to colour 500 yards of flannel, vermilion for 2560 yards, aurine for 120 yards, and alizarine sufficient for 155 yards of Turkey red cloth.

The Utilisation of Sea-Sand.—It is difficult to imagine a more unpromising material for agricultural or horticultural purposes than sea-sand, and yet the science of chemistry has been found equal to the task of rendering it available for growing vegetables and other like produce. Professor Atwater, in the *Century*, states that in the laboratory of Wesleyan University they have been growing plants in just such sand brought from the shore of Dong Island Sound. To divest it of every trace of material which the plant might use for food, the sand was carefully washed with water and then heated. It was then put into glass jars, water was added, and minute quantities of chemical salts which plants take from the soil were dissolved in it. In the sand thus watered and fertilised dwarf peas were sown. Peas of the same kind were cultivated by a skilful gardener in the rich soil of a garden close by, and grew to a height of about four feet, while those in the sand, with water and minute quantities of chemical salts, reached a height of eight feet.

The Antiquary's Column.

Some Quaint Remedies.*

For ye Green-sickness.

Take earth-wormes, open them, wash them clean in an ouen and beat them to powder. Give a spoonful in white-wine in ye morning.

For Numnes of Members.

Take and anointe the greefe if it cometh of colde with oile of woodbine, and if it cometh of heat use Populion.

For the Dymness of the Eies.

Take of the water that is stilled of strawberries, and wash ye eies with yt. Likewise it doth quench ye heate of the face and take awaye the redd spotts of ye same if you use it xii. daies togeather.

An Electuary yt Quene Mary was wont to take for the Passion of the Hart.

Take damask roses half blowne out, cutt of ye whites and beate your roses veary fine and straine out ye iuice as much as you can, you may putt to it if you will a little rose water to make it more moist. Then take of ye finest sugar that you can gett, and make a sirop of it uery thick. Then take rubies and beate them uery fine, and likewise amber and pearle, a little amber greece, and mingle all these togeather with some of the sirop till it be somewhat thick, then take it morn and even uppon a kniues pointe a little quantity, you may take it, els at any other tyme when you think good. This medicine is uery excellent and approued.

For ye Redness in ye Face.

Take ye call and the fatt of the kidneys of a kidd, and laye it in red rose water, a night and a daie, and when you have so done, mynce it uery small, put it into some uessal of silver, and keuer it ouer with red rose water, and then kever the uessell with parchment or paper, and then sett it into a possuct of water and so lett it melt untill all the grease be consumed, and then straine it out; then beate it out in rose water and the juice of Lemmons till it comes to a ueary pure whiteness. When you please, you may use lamms sewet thus wch is supposed as good as the other.

A singular Ointmt. for any Ache or Bruise.

Take Rosemary-toppes, Lavender-cotten, Tyme, ij strings of Strawberries, French Mallowes, and Southernwood, ij toppes of Dayes Dill Rewe ana 2 handfulls. Take 30 swallows out of ye nest,

* From *Arcana Fairfaxiana*, etc. (London: Elliot Stock.)

young and flush, and pound them very small in a stone mortar till yu see no substance but feathers. Then pound all the herbes wth the swallowes, and an ounce of cloues therewth, and in ye pounding putt to it by little and little 2 pounds of Barroes grease, then putt it all into a pott and couer it close, and let it boile for the space of 2 houres, putting to it at ye first before yu boile it, a quart of neats-foot oile. Then take it off and skim it and couer it close and lett it stand 10 or 12 daies, and then boil it again an hour, and if need bee put to it a pound Barroes grease more. Then strain it and putt it up, & keep it for your use.

To stopp the Flux.

Take the Raspes berries and boile them in red wine and drinke of it often times warme, there is none like to this and it quencheth St. Antoines euell as diascoridis reporteth lib. 4, chap. 34.

For Ache, Stitch, or Swelling.

Take half a peck of earth wormes and putt them into haye to skowre them selues, shifting them 3 times in 24 houres wth new haye, then stamp them small in a morter and put to them a pottle of malmsey and a pottle of muskaden, then boile them till more than half be wasted, then straine it and kepe it for yor use to anointe the greef wth morne and even.

To make a Powder for the Stone to eate with Meat instead of Salt, using it now and then.

Take the lunges of a fox, and wash it in white wine, and then laye it in white wine xii. howers, and then drie it in a faire cloth, and sett it into an ouen to be beaten into powder, then take to that a little powder of liquoris finely beaten, a little annis seede finely beaten into powder, and a little sugar candy, beaten into small powder; but lett ye greatest quantity of your powder be of the fox lunges, and when you eate not this powder, eate two or three tymes a daye the conserues of redd roses.

For One yt is Stunge with an Adder.

Take musterd seeds and bruse them in a woodden dish wth dragon water, then opening the wound with a fine needle binding the patient about aboue the place where he is hurt, for swelling any further, then bathe the wound all about as farr as it is swolen with dragon water, then laye the medicine uppon the wounde, binding it on wth a faire cloth, then ye next tyme you dress it againe, anointe it with oile of roses, giuing the patient treacle and dragon water to drinke when you dress it first.

PRECAUTIONS AGAINST CHOLERA.

The Prussian Ministry of Ecclesiastical, Educational, and Medical Affairs has caused the following statement to be published in the papers of what it is most necessary for all and sundry to know regarding cholera, an example well worthy of imitation by all similar authorities throughout the world:—"1. The virus of cholera is in the evacuations of the patients, and can be transferred with them to and into other persons, and in the most various things with them, and be carried about. Such things are, for instance, linen, clothes, articles of food, water, milk, and other drinks; and with all of them, even if only the slightest traces of the evacuations, not perceptible to the natural senses, exist on or in them, the pestilence can spread. 2. It easily happens, therefore, that the contagion is carried from place to place by persons who are or have been ill of cholera, or have come into contact with such, and who leave their places of residence in order, as they think, to escape the danger that threatens them there. This is all the more to be warned against, as, on the one hand, one may be already infected before departure, and, on the other, one can protect oneself better at home than elsewhere, especially when travelling, by taking the following precautions. 3. People should not be received into houses from places where cholera exists. As soon as cases of cholera have occurred in a place, persons coming from it must be regarded as possible bearers of the germ of the disease. 4. Lead as regular a life as possible. Experience teaches that all disturbances of digestion make one especially susceptible to cholera. Be on guard, therefore, against whatever can produce such disturbances, such as excessive eating and drinking and indigestible foods. Avoid especially whatever causes diarrhœa or irritates the stomach. In case of diarrhœa, however, consult a doctor at once. 5. Eat and drink nothing coming from a house where cholera is present. Things by which the disease can easily be transmitted—for instance, fruit, vegetables, milk, butter, fresh cheese—must be avoided or taken only after being boiled. Especially the drinking of unboiled milk is to be avoided. 6. All water which may be polluted by excrement, urine, kitchen refuse, or other dirt must be most rigorously avoided. Water taken from the ground under inhabited places, or from swamps, ponds, drains, or rivers, is suspicious, because impurities generally flow into them. Water polluted in any way by the excrements of cholera patients is especially dangerous. Special care must be taken that water that has been used in cleaning vessels or dirty linen does not get into or even near wells or stand-

ing and running waters. The best protection against the pollution of well water is afforded by iron tube wells driven straight and sufficiently deep into the earth (Abyssinian wells). 7. If it is impossible to get free from suspicious water, it must be boiled, and only boiled water drunk. 8. All this applies not to drinking water alone, but also to all water used for domestic purposes, because germs of disease can be communicated to the body by water used in cleansing kitchen utensils, cleansing and cooking food, washing, bathing, etc. In general, the belief that drinking water alone is to be regarded as the bearer of the virus, and that one is completely protected if only unexceptionable water is drunk, is urgently to be warned against. 9. Every cholera patient may become the starting-point for the further spread of the disease, and it is therefore advisable to send such patients to hospitals. If this is impossible, nobody must be permitted to approach them without necessity. 10. Never enter a house with cholera in it except at the call of duty. Never visit places where many people are assembled in cholera times. 11. Never eat, drink, or smoke (even for one's own sake) in rooms in which there are cholera patients. 12. As the evacuations of cholera patients are specially dangerous, clothes and linen soiled with them must either be burned at once or disinfected in the manner stated in the instructions for disinfection published simultaneously with this. 13. The most scrupulous care must be taken that cholera evacuations do not get near wells or rivers serving as sources of water-supply. 14. All articles coming into contact with patients which cannot be destroyed or disinfected must be rendered harmless by means of hot vapours in special disinfecting establishments, or not used for at least six days, during which they are kept in a dry and airy place exposed as much as possible to the sun. 15. Persons who come into contact with a cholera patient or with his bed or clothing should wash their hands at once, especially if soiled with the excrement of the patient. Do not touch food with unwashed hands or put into the mouth eating and drinking utensils, cigars, or anything else that may have been soiled in the sick-room. 16. In case of death the corpse must be removed to a mortuary as soon as possible. If it cannot be washed there it ought not to be washed at all. The funeral should be as simple as possible. The guests should not enter the house of death or take part in any funeral feast. 17. Articles of dress, linen, and other things that have been used by cholera patients, or been in contact with the corpses of such patients, must on no account be used or given to others till they are disinfected. Especially they must not be sent to other places unless disinfected. The receivers of packages containing such articles from cholera places are urgently advised to send them at once, if possible, to a disinfecting establishment, or to disinfect them themselves with the necessary precautions. Cholera linen ought not to be received for cleaning till it has been disinfected. 18. No other preservatives against cholera are known, and the public are advised not to use the medicaments—cholera-brandy, etc.—which are always puffed in cholera times."

WHY BROWN BREAD IS GOOD.

Dr. J. R. Allinson writes as follows to one of our contemporaries. Our readers will see that we are in the curious position of agreeing with both sides of the question—in the desirability of using the valuable constituent of bran, and of rejecting the irritating particles.

"An article in a recent issue of *Science Siftings* has been brought under my notice, entitled 'Why Brown Bread is Bad.' By the kind permission of the editor, I will answer it and show the writer his mistake.

"The writer of the former article asks why has not the offal of flour mills been made into a medicine? It has, and is widely sold as dyspepsia cakes. I also recommend my patients to take bran biscuits with them on a sea voyage, or to make and eat these biscuits if they are living in some place where wholemeal bread cannot be obtained. By means of these biscuits constipation, and the train of evils which result from it, is prevented.

"The writer next asks, will brown bread prevent or cure constipation? Certainly; I have cured thousands of cases of constipation by it, and have not yet seen a case I could not cure by its means. Of course, in obstinate cases I advise wholemeal bread puddings to be eaten in place of milky ones. The bran is a valuable constituent of bread for many reasons. It separates the particles of food, and allows the gastric and intestinal juices to penetrate, and dissolve out all the possible nutriment. It also fills up the 33 feet of bowel which we have in the abdomen, and by its bulk sets up reflex action and daily expulsion of useless and refuse materials. The 33 feet of bowel need insoluble matter to fill them up before they will act.

"The writer asks the influence of brown bread on the teeth. If he will consult Cooley's *Toilet and Cosmetic Arts*, he will find this sentence: 'The people of the North of Europe eat coarse black bread, and dentists and dentistry

are unknown amongst them.' If he will consult *Science of Life*, by Sylvester Graham, he will find evidence that wholemeal bread eaters suffer little from caries or decay of the teeth. My experience bears out this statement; eaters of wholemeal bread trouble the dentist very little. In Lancaster, where white bread, potatoes, meat, fish, and other foods poor in bone-forming matter, are largely eaten, there bad teeth are the rule, and dentists plentiful. It is wrong to infer that because men are both bald and toothless, that the baldness is also due to white bread. Teeth are made from the mineral matter in the blood, not so the hairs.

"White bread is the cause of many ailments, by being deficient in nitrogenous matters; those who largely depend on it for their nutriment are half starved, and their muscles are poor. After a meal of white bread, a person feels full, but not satisfied, hence arises the craving for strong tea, tobacco, or alcoholic stimulants to overcome these sensations. White bread is deficient in mineral matters, and those who eat largely of it suffer from rickets, if children, and if adults, from brittle bones, poor teeth, and a blood deficient in saline matter, and scurvy may arise. By white bread being deficient in insoluble matter, it allows the bowels to become costive, hence the bile and other excretory products are re-absorbed into the blood, and cause all kinds of dull feelings, low spirits, depression, want of energy, etc.

"The heavily-loaded bowel also causes pain in the back, lassitude, weariness, and complaints peculiar to each sex. Hæmorrhoids, varicose veins, and varicose ulcers also arise from constipation, due to the eating of white bread. From the straining necessary to overcome constipation, rupture of a blood-vessel in the brain or lungs may result, and serious consequences ensue. The offal of wheat has constituents for making bones, nerves, and teeth. Magendie proved by experiment that dogs fed on white bread die in six weeks, with all the symptoms of starvation, but others fed on brown bread were none the worse for the monotonous diet. Food reformers do not say that bran contains all the sustaining part of the wheat, but that it is the essential part of the wheat, and should not be thrown to the swine. My own experience has shown me the immense value of wholemeal bread over white. White bread rarely enters our house; and in the Hygienic Hospital, to which I am physician, white bread is not allowed. All who value their health should make it a rule to eat wholemeal bread rather than white, and they will bless the day on which they made the change.

"[The proportion of healthy people who subsist without brown bread is, we should imagine, much greater than those who eat of it. Anyhow there are thousands of healthy people who thrive and are happy without any such form of diet. The nutritive properties of an aliment are not those which the food contains, but those which the system is capable of assimilating. This is our contention respecting brown bread: The digestive organs of nine people out of ten cannot properly deal with it. The one man whose digestive functions can appreciate it only does so by constant usage, and the good he derives is questionable, since it does not compensate for the harsh treatment to which he has had to submit in cultivating the habit. Beyond this, the constant consumption of brown bread induces an over-laxity of the bowels, which, however desirable in some people, is to be deprecated in other cases.—ED.]"—*Science Siftings.*

DOMESTIC AND PERSONAL HYGIENE.

A Musty Cellar.

A GOOD way to ventilate a cellar is to extend from it a pipe to the kitchen chimney. The draught in the chimney will carry away the gases which would otherwise find their way into the room above.

Gas Fires,

and indeed all gas lights, require abundant ventilation. Much bodily and mental discomfort is experienced through neglecting this.

"The Selfishness of Mothers,"

says the wife of a physician, "is something that should be inveighed against. I speak with special reference to it in times of disease. There is a case of scarlet fever on our block in a house which fronts on the other street, and now that the child is getting well, the mother, or nurse, is so careless as to shake bed-clothing daily from the window of the sick room. This endangers the health of the whole court of children, as nobody knows into whose windows the discarded skin-flakes may fly."

Tobacco *v.* Infection

has again brought forward the question of the utility of tobacco smoking as a disinfectant. A large number of investigations have been made by Dr. Tassinari on the influence of tobacco smoke on the germs of cholera, anthrax, and pneumonia. His method of research was to line the interior of hollow balls with gelatine containing the germs of the diseases named; tobacco smoke was then passed through these globes for from ten to thirty minutes. The surprising fact was then established that at the expiration of that time the bacilli of true Asiatic cholera and of pneumonia were completely destroyed, whatever the kind of tobacco employed for the purpose. The gelatine was absolutely sterilised by the tobacco smoke. The anthrax bacillus was more resistant, however, while the bacillus of typhoid was scarcely acted on at all.

No Warmth in Clothes.

It is a mistake to suppose that there is any warmth in clothes. Animal heat is the direct result of changes going on within the body itself. Nutrition by food and the discharge of energy by exercise are the efficient causes of heat. Clothes "seem" good and warm because they prevent the cold air and objects with a capacity for heat which surround the body from attracting the heat generated with its organism. The clothing is simply an insulator. It follows that it should be light in weight, and above all things that it should permit free and full circulation of blood through every part of the system —to the end of finger and toe—and that the muscular apparatus of the extremities should be in perfect working order. If we will wear foot covering, whether boots or stockings, which compress the feet and render the separate action of each toe impossible, it is simply absurd to expect to be warm-footed. Heat is the complement of work and nutrition; and if a part of the organism is so bound that it cannot work, and its supply of food is limited, it must be cold. The resort to stouter and heavier clothing under such circumstances is simply ridiculous. Generally it is the stocking that compresses the foot. The garter acts as a ligature, and diminishes the blood-supply, while the stocking itself acts as a bandage and impedes the circulation throughout the extremities.

Crime and Heredity.

In a paper on instinctive criminality, Dr. S. A. K. Strahan holds that the criminal belongs to a decaying race, and is only found in families whose other members show signs of degradation; in fact, it is only one of the many signs of family decay. Besides being hereditary, criminality is interchangeable with other degenerate conditions, such as idiocy, epilepsy, suicide, insanity, scrofula, etc.; and it is a chance whether the sanity or drunkenness, say of the parent, will appear as such in the child or be transmitted in transmission to one or other of the alternate degenerate conditions.

Grimaces and Gestures.

Some nervous diseases may be described as exaggerations of individual eccentricities, of bad habits, involuntary gestures, and tricks of movement which have never been repressed by education. It is remarkable how often among the lower orders the natural beauty of a child's face is marred by its continual grimaces. An inexperienced speaker will betray his nervousness or enforce his conviction by twenty odd movements and ungainly gestures which, if they became fixed and habitual, might fairly be called spasmodic neuroses. Some of them are emotional outbursts, others are consensual movements dependent upon the law of irradiation by which a powerful motor stimulus is apt to overflow beyond its intended channels. To the first group belong the smiles, the tears, the shuddering, and the involuntary applause of the spectator of a drama or of the auditor of an oration. To the second movements of the face, the hands, the arms, and the whole body which accompany the words of a public speaker. These, when properly restrained and disciplined, form half the power and the charm of acting or of oratory; but they have their origin in the uncouth movements of a clown at a fair, or of an illiterate person painfully composing a letter. These involuntary, emotional, or consensual movements may, Dr. Pye-Smith tells us, under certain circumstances, be developed into paroxysmal neuroses — on the one hand into spasmodic tic, on the other into hysterical convulsions; and in accordance with this supposed origin is the asserted fact that such functional disorders are more common in France and Italy than among the less emotional, less demonstrative population of Great Britain.

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

DENTIST'S MOTTO.—The Tooth, the whole Tooth, and nothing but the Tooth.

MRS. MALAPROP: "All the health retorts are mal-odious with disaffectants."

FLOSSY: "Was the early man a savage, mother?"

Mother: "Yes, dear, wild and savage."

Flossy: "Well, I saw a late man at the train to-day, and I think he was wilder and savager than any early man could be."

SCREW GLASS FEEDING-BOTTLE.—An advertisement praising the virtues of a new make of infants' feeding-bottle, winds up by saying: "When the baby is done drinking it must be unscrewed and laid in a cool place under a tap. If the baby does not thrive on fresh milk, it should be boiled." Poor baby!

SICK MAN: "I want a drink of gin, and I will have it." Minister: "But, sir, you are dying. You can't expect to be received within the golden gate with the smell of gin on your breath." Sick man: "Pshaw! I'll have stopped breathing before I get there."—*Pharmaceutical Era.*

IF SHE WOULD BE A SINGER.—A lady, desirous that her daughter should be an accomplished vocalist, took her to several "professors" for advice. "The first professor," repeated the lady to her husband, "said that Almira sings too much with her borax. If she keeps on she will get digestion of the lungs. He said she ought to try the abominable breathing, and practise solfudgery. Then the next teacher told me she ought to sing with her diagram, and not smother her voice in the sarcophagus. Then the next he poked a looking-glass down her throat, and said the phalanx was too small, and the typhoid bone and the polyglottis were in a bad way; and I never knew that Almira had so many things down her throat, and I am afraid to let her sing any more for fear it will kill the poor girl."

DOLL-DOM.—The most characteristic child's nightmare we ever heard of was that of a little girl who called out in her sleep, "Oh, mother, mother, the sawdust is coming out of my head!"

DOCTOR: "How is the baby?" Mrs. Jinks: "Offal bad, sir. Last night the poor little thing was took dreffle. First she would clinch her hands, and then she would say, 'A-h-h,' just like a human being!"

A DOCTOR was called to prescribe one day for a man who was ill, and gave him some medicine.

The next day but one he called to see the patient.

"How is he to-day?" he asked the servant at the door.

"He's dead, sir; that's how he is."

"He is—eh?" said the doctor indignantly. "Well, that's always the way. People expect our medicine to work wonders, and then they are in a hurry, and do not give it time to prove what it can do."

A NERVE DOCTOR—one who builds up broken constitutions and shattered nerves—had a call the other day from a man who looked very much broken down, or up, whichever way you look at it. "What are your symptoms?" asked the nerve doctor. "Well, I feel weak." "Exactly. Great disinclination to do anything?" "You've hit it exactly, doctor, disinclination to do anything, and that's why I've come to see you." "Lucky you didn't put it off any longer. Bad taste in the mouth mornings?" "Awful." "Vision dim?" "Can't see across the street." "You ought to have come here before. Your nerves want strengthening immediately. You've actually no nerve left." "No nerve left, you say? (With sudden energy.) Doctor, lend me ten dollars!" When the doctor came back from kicking the fellow into the street he uttered, "Try to borrow money of me! Well, he had nerve, that's a fact."

THE THROAT AND VOICE

CHLORATE OF POTASH "TABLOIDS."

FOR AFFECTIONS OF THE VOICE, THROAT, AND RESPIRATORY SURFACES GENERALLY.

By using the "Tabloids" the drug is effectually brought in contact with the pharyngeal and oral mucous surfaces as a continuous application, and its specific action made certain. In acute sore-throat, Chlorate of Potash "usually relieves the uneasiness in a few hours" (Cohen). "It is used in ulcerated mouth and follicular pharyngitis, and has been employed in croup, diphtheria, and spasm of the larynx" (Brunton).

"Of convenient size, they are beautifully made; and, as they dissolve slowly in the mouth, are well suited for throat affections."—THE LANCET.

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Alkaline and Antiseptic.

Dr. MACNAUGHTON JONES' formula for an antiseptic and detergent mouth lotion, gargle, or irrigation solution for the nares. The difficulty experienced in obtaining solutions for these purposes which will not undergo decomposition upon keeping is well known.

A "Tabloid" makes a perfect solution (Cocaine 1 in 6000) in half a small wineglassful of *tepid water*, and such solution may be used as a gargle or lotion for the nares, pharynx, or mouth. *These "Tabloids" will dissolve immediately without crushing and stirring.*

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The "Tabloids" afford an agreeable form in which to administer Chlorate of Potash and Borax.

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Witch Hazel Plant.

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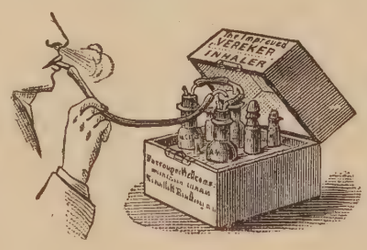

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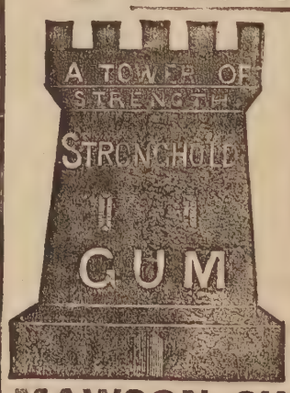

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The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

MOSTLY STATISTICS THIS MONTH.

The population of the United Kingdom was estimated, at the middle of the year, at something over thirty-eight millions. The exact figures estimated are—England and Wales, 29,403,346; Scotland, 4,063,451; Ireland, 4,642,532.

* * *

During the third quarter of the year (July to September) there were 283,995 births and 148,519 deaths. The natural increase of population was therefore 135,476.

* * *

We have previously referred to the curious periodic rule of population in Great Britain, that deaths are most numerous in the first quarter of the year, births in the second quarter, and marriages in the fourth. To this rule there were no exceptions during the last ten years in the case of marriages, and only two exceptions in births and deaths.

* * *

Of the 115,733 deaths in England and Wales during last quarter, 17,609 were ascribed to zymotic causes, that means preventable causes, for diseases of the chest, consumption, etc., are not included.

* * *

Here are the particulars—

Attributed to	Diarrhœa . . .	9095
,,	Measles . . .	2565
,,	Whooping Cough .	2017
,,	Scarlet Fever . .	1375
,,	Diphtheria . .	1320
,,	Fever . . .	1151
,,	Small-pox . .	86

* * *

With the exception of whooping cough and fever, the infectious diseases were more fatal in the larger towns than the smaller, and more serious in the smaller town districts than in the country. The poet Cowper says, "God made the country, but man made the town."

THE average death-rate for ten years has been in English towns 20.4, and in the country 17.5.

* * *

THE most densely populated towns are as follows, the figures being persons to an acre:—Liverpool (98), Plymouth (58), London (57), Bristol, and Bolton (each 48). The most sparsely populated are Huddersfield (8), Croydon (11), and Norwich (13).

* * *

BY a curious coincidence, the two most sparsely populated towns, Huddersfield and Croydon, have the lowest death-rate for the quarter amongst the thirty-three great towns.

* * *

Vital Statistics for the Quarter ending 1st October 1892.

CITIES AND BOROUGHS.	POPULATION.	Persons to an Acre.	Births.	Deaths.
33 TOWNS	10,188,449	34.8	32.1	17.9
London	4,263,294	57.1	31.0	17.1
West Ham	217,113	40.3	35.9	18.6
Croydon	106,152	11.8	27.8	12.6
Brighton	116,424	46.3	24.1	15.0
Portsmouth	163,667	37.9	28.9	15.4
Plymouth	85,610	58.3	28.4	16.4
Bristol	223,592	48.3	28.4	16.1
Cardiff	136,181	18.5	35.6	17.3
Swansea	92,344	15.5	33.7	16.4
Wolverhampton..	83,519	24.6	34.6	17.1
Birmingham	483,526	39.1	32.0	18.4
Norwich	102,736	13.7	31.0	16.0
Leicester.....	180,066	45.2	32.8	17·0
Nottingham	215,395	21.6	29.9	15.3
Derby.....	95,908	27.8	33.4	17.1
Birkenhead	101,264	26.3	34.1	17.7
Liverpool	513,790	98.6	35.0	22.3
Bolton.....	116,261	48.4	32.8	21.3
Manchester	510,998	40.0	34.8	20.3
Salford	201,058	38.9	35.7	23.2
Oldham	134,221	28.4	28.4	17.5
Burnley	90,589	22.6	36.8	17.4
Blackburn	122,238	17.5	32.6	19.4
Preston	109,038	27.1	34.1	24.3
Huddersfield	96,599	8.2	25.7	14.8
Halifax	84,097	22.3	25.6	15.5
Bradford.....	219,262	20.3	28.2	16.4
Leeds	375,540	17.4	34.7	18.6
Sheffield.....	329,585	16.8	37.0	21.0
Hull	204,750	25.9	36.9	18.8
Sunderland	132,839	43.8	34.5	19.9
Gateshead	88,588	28.4	31.7	17.4
Newcastle	192,205	35.8	33.1	16.9

* * *

WHEN the Queen's Bench division of the Law Courts goes wrong on ventilation, who can save us? Mr. Justice Day recently adjourned the court for the day, rather than subject the court to the vitiated atmosphere. Three cheers for the Law. Sometimes it does do the right thing, but not by precedent.

TWENTY years ago, in Newcastle-on-Tyne Infirmary, 40 per cent. of the major operation cases died; and now, taking a period of thirteen years, the mortality is only 8 per cent. That is, out of every hundred persons operated on gravely forty used to die, and now only eight die.

* * *

THIS is a wonderful result, and shows the strides that surgery has made since Sir Joseph Lister introduced the antiseptic system of treating wounds. The increased skill of the surgeon, however, has much to do with it. It is not quite a case of "you tie the ligatures, Lister does the rest."

MEDICINE FOR THE MIND.

BY THE EDITOR.

WHEN speaking of the cause and cure of melancholy and subjects of that nature, we have had occasion to point out that gloomy views of life, mental misery, and irritability of temper frequently have their origin in the stomach, the liver, or the kidneys. In other words, that ills which appeared to exist in our external circumstances really arose from a depressed or imperfect condition of the body. And we have on more than one occasion been taken to task by our correspondents for what they called our tendency towards materialism. Now, we do not yield a jot of what we said on "Melancholy," and on "Health, Temper, and Temperament," but we have now something to say upon the other side of the question. That side dealt with the influence of the body on the mind and on its views of the environment; this deals with the influence of the "environment" on the mind and the body.

Every one has felt the quickening of spirits and the invigoration of mind which results from a bright sky and a clear air. The average individual is, under these benign influences of nature, more cheerful, more hopeful, and more fit for the battle. The weakly and infirm are still more dependent upon them. A damp day, a foggy atmosphere, a leaden sky cause positive pain and discomfort, not only throwing the mind back upon itself, but actually increasing the morbid bodily symptoms.

But if natural phenomena so greatly influence the mind and body, how much more so do social influences, and the emotions which they awaken? A bad day's business or a fall in

stocks will depress the system far more than hard work. A threatening letter will paralyse the mental faculties and actually arrest the formation of gastric juice. A course of anxiety, from whatever cause, will throw the digestive apparatus or the nervous system completely out of order.

On the other hand, how a gleam of hope quickens the pulse, and a kind word makes even a dog to caper joyfully about. We were reading the other day a love tale wherein a young lady was at one blow deprived of her means of livelihood, her friends, and her lover. Dismal surroundings, grief and disappointment for what she had lost, and terror for the future had taken every spark of light and courage out of her life. Unexpectedly her lover returns, and six words from him change the whole aspect of nature, external and internal. The world was now flooded with sunshine, life was noble and sweet, mankind and circumstances were no longer the pitiless tyrants she had deemed them a few moments before.

So is it every day all the world over. Sunshine and cheerful faces are correlative, in the world of life and human society. Friendship, and kinship, and love are the only physicians for a broken spirit. In times of trouble and fear, if we can unburden ourselves to a sympathetic ear, we can say, like the poet—

> "A timely utterance gave that thought relief,
> And I again am strong."

Pent-up feelings, like pent-up secretions, become poisons to the system. The chill which drives the perspiration inward from the skin is not more dangerous than the cruelty which chills the tender human spirit and drives back its sympathy and confidence. Given two invalids in the same condition of body, if that could be imagined, and having the same food, medicine, temperature, and attention; then put one in a dull room, with a gloomy and querulous nurse or companion, while the other is placed in a cheerful, sunny room with a gentle, loving, cheerful, and hopeful companion,—which of these two stands the best chance of a speedy recovery? The heart responds—we do not mean the figurative heart, but the actual, fleshly circulating pump which keeps the tissue supplied with blood—we say the heart responds to emotional influences, beating stronger and fuller under exalting thoughts, and feebler and thinner as words fall upon the ear which take away hope, joy, or the solace of confiding love.

Science, while it enlarges our insight into the ways of nature in health and disease, does not annihilate our feelings, our sentiments, our emotions, our spirituality; nor should it, even by its neglect, seem to narrow their range and power in the empire of human life. Barren, indeed, and desolate is that human existence in which material aims, such as the acquirement of wealth, necessary as they are in their due proportion, form the main motive in life's drama. Warm human interests, love and friendship, and wide communion of feeling,—these are what ennoble and enrich the whole being. And although they cannot be measured out in therapeutic doses, nor retailed at a guinea a box, their influence upon health is unquestionable. Their result may not be distinctly traced, but it is as certain as the influence of sunlight.

THE STAFF OF LIFE.

(Continued.)

BEFORE describing the latest antidote to white bread, we wish to recall the main features of the question.

The nutritive and frame-building qualities of "daily bread" are of vital importance to the races which feed largely upon it. As we remarked at the commencement of our article four months ago, a change from one grain to another, as from oats to barley, from barley to wheat, or from brown bread to white, may change the destiny of a race. The difference of body and mind frequently observed between the Scots and the Irish races is largely the difference between oatmeal and potatoes, the former being the richest of all grains in the elements of nutrition, the latter being amongst the poorest of food substances.

Now all the English-speaking races are more and more confining themselves to wheat as the "Staff of Life"; for while the rich have a mixed diet in which bread is not the main element, yet the working classes and the young of all classes make the bulk of their meals off the loaf; therefore any difference in the life-

sustaining qualities of bread ought to be zealously watched.

Now it happens that, by almost insensible degrees, with improvements in modern milling, the grain has been more and more emasculated in the process of flour-making by being deprived of every vestige of bran. Every student of agricultural chemistry knows that bran contains at least five times as much mineral matter as fine flour, and as this is one of the principal sources of the phosphates—which are so necessary to the formation of bones and teeth, and to the healthy functioning of brain and nerve—one can easily imagine how a race might degenerate through this deficiency alone—from the use of bread deprived of its frame-building properties.

That this is no imaginary danger can be easily proved. In our last issue was an article relating experiments by Magendie, who showed that dogs fed on white bread die in six weeks, with all the symptoms of starvation, while others fed on brown bread were none the worse for the monotonous diet.

Now the effect of white bread upon the human subject is not usually so extreme, because the diet is not composed of bread alone. Half the coroners in large cities in England can testify that babies fed on "boiley"—that is bread steeped in boiling water—die of starvation. But all children suffer, insensibly, just in the proportion in which their diet is of white bread. They suffer in the smallness of their bones and consequently stunted growth; they suffer in the infirm quality of their bones, in their teeth, which, lacking the adamantine hardness they ought to possess, fall sooner a prey to decay. And adults also suffer, because Nature does not find in the blood those materials she requires for repairing and rebuilding the tissues and structures wasted by labour and exercise.

Unfortunately, along with the valuable frame-building properties of bran or brown bread there is a serious drawback. It is not that it offends the eye; the fashion of white bread might be altered. But "the digestive organs of nine persons out of ten cannot deal with it." The more that mental work is demanded the less must be the strain upon the other organs, such as the stomach. And the indigestible husks of bran are both irritating and difficult of digestion to the brain-worker. Many persons who in the country have thriven upon oatmeal and brown bread, have been compelled to alter their diet in the cities; and this is not a matter of taste merely, but a difference in the demands of the system.

We are now on the horns of a dilemma. We are either to slowly degenerate physically under a diet of white bread, or lessen our mental labour in order to digest brown bread.

Science, however, steps in and says, "Let us separate the good from the evil, the strength-giving materials from the indigestible." Many attempts have been made to do this, most of them, however, from the standpoint of medicine, not of food. When the systems of children have sunk below par, the doctor gives "Chemical Food," which is in great measure composed of the phosphates found in bran, of which the child has been systematically deprived.

But it is not sufficient to be wise after the damage has been done. We should prevent by a proper diet what can only be imperfectly remedied by medicine. It is only when the bran salts can be introduced into our daily food that the difficulty will be overcome. Several foods, such as "Frame Food Extract and Diet," have in a measure succeeded in doing this, but they are as a rule too expensive for regular use by any except the upper or middle classes.

There has recently been devised, however, and protected under the Patents Act in England and abroad, a system by which the frame-building constituents may be extracted from bran and combined with table salt. The average consumption of common salt by persons of all ages has been calculated, and the proportion of bran salts to be combined with it has been regulated accordingly, so that the compound salt thus formed is as suitable for infants as for adults, and is available for all the uses of common salt. Thus by using the new salt instead of the common salt for making bread, you restore to white flour the strengthening properties of which it was deprived when the bran was removed. By using it at table you restore the natural salts which have been boiled

out of the vegetables, and for which common salt is not a substitute. Indeed, by using it for all the purposes to which ordinary salt is at present put—excepting perhaps in boiling potatoes and vegetables, when the water is thrown away—you have a more beneficial, more satisfying, and more natural salt, which will tell upon the system for good, and good only.

Although not in any sense a medicine, it was submitted to the medical profession before being extensively prepared; and as far as their opinion has up to the present been ascertained, they have given it their hearty and unqualified approval.

(*To be continued.*)

PUBLIC HEALTH PAPERS.

By Charles J. Russell McLean, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Fellow of the Society of M.O.H.; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. V.—FOOD.

This paper will be devoted to pointing out the chief characters of pure and wholesome food, its most important impurities and adulterations, and to giving a ready means of detecting the latter.

Sometimes the detection of adulterants is comparatively easy, but in the majority of cases great skill and practice is required. For example, in the case of a sample of coffee analysed in the Paris Municipal Laboratory, and reported by Fox, the following adulterations were found, viz.:—"Red earth, flour, coffee grounds, caramel, talc, plumbago, vermicelli, semolina powder, bean dust, carrots, bread crust, acorns, sawdust, red ochre, brick dust, ashes, mahogany shavings, vegetable earth, and sand"—truly a high-class coffee.

The tests I purpose giving will not enable any one to detect such a conglomeration of substances as are given above (and which of course is an exceptional case), but will chiefly consist in a popular (though not always scientific) method of detecting the commonest adulterations in the plain ordinary foods of everyday use, and without incurring much expense.

Let me also mention, for the benefit of those who have a good microscope, that much can be learnt from its use as to whether many foods are pure or not; in fact, to the analyist it is indispensable, but in this paper I will omit any reference to microscopic examination of food stuffs as far as possible, as it requires much experience, and perhaps few of my readers have an instrument suitable for the work. Much can be learned from a careful naked eye examination.

Flour.—Good flour should be quite white, free from grittiness, and have no mouldy or unpleasant smell. A yellow colour points to age or some change in the flour, and if gritty to the fingers will most likely produce sour bread. The coarser or bran part of the grain, which is usually removed, is the more nutritious but less digestible part of the wheat; and dentists tell us that it is the use of the fine and the rejection of the coarser flours which is causing so much decay of the teeth, as is manifest at the present day. Our editor has also of late been pointing out the advantages of the coarser flours. While at Cologne recently I saw, amongst other bones, some skulls which were thrown out from an excavation in one of the main thoroughfares, and which must have been two or three hundred years old; and I was forcibly struck with the fact that so many of those skulls still had good teeth in their sockets. In those days flour was not ground so finely.

Adulterations.—Plaster of Paris, clay, and other mineral matter, but more commonly starches from other grains, such as barley, or from potatoes.

Detection.—Shake a little of the flour up in a small narrow glass full of chloroform; the flour will float, while any mineral matter at once will sink. The different starches can be readily detected under the microscope. Make a loaf, and note its qualities.

Bread, properly made with good flour, should rise well, have a good brown crust (not burnt), be quite white when cut into, and should not quickly go sour. Bad flour makes a heavy, "sad," yellow bread, which soon turns sour. In good bread the cavities are small and regular. Fourteen pounds of flour should make about nineteen pounds of bread.

Adulterants.—Alum, water, potatoes. There is a small amount of phosphate of alum in all bread, but sometimes common alum (sulphate) is added to inferior flour to whiten the bread, and also to make it weigh heavier by enabling it to retain more water. Potatoes are added to make it heavier by increasing the moisture. If too quickly "fired," bread retains too much water.

Detection.—Cut a slice of bread, and pour over it first some freshly-made solution of logwood-chips, and then some solution of ammonium carbonate. If alum has been added a bright blue colour will show itself in about half-an-hour, whereas if there is no alum present the colour becomes a dirty pink.

Yeast.—Dr. Letheby has found 30 per cent. of pipe-clay in a sample of German yeast, but ordinary brewer's yeast is not likely to be adulterated. *Moral*—Use English yeast.

Oatmeal is liable to have barley meal added, and if so, the husks are more apparent to the naked eye than oatmeal husks are. The microscope will decide.

Sugar is almost too cheap nowadays to adulterate, but it may be done by adding starch, sand, lime, or other mineral matter.

Detection.—Starch, by means of the weak iodine solution forming a blue colour. Sand, lime, etc., by dissolving the sugar in some cold water, the mineral matter remaining undissolved and sinking, where it can be collected and examined by the microscope.

Butter.—This is formed by "churning" the cream until the fat cells become ruptured, when their contents clot together as butter. It is then "worked up" to expel the water and salt added as a preservative. Good butter should give no rancid or unpleasant taste or smell.

Adulterations.—Animal fats, such as beef dripping, hog's lard, or mutton suet, also potato starch, and occasionally a colouring agent called anotta, which is added to give the butter a rich appearance. Again, too much water may be left in the butter so as to increase the weight. The water should not be over 5 to 10 per cent., and the milk fat should exceed 80 per cent. of the whole.

Detection.—The first method will cause a little trouble, the appliances required being a spirit-lamp (or Bunsen gas burner), glass test tubes, and a glass tube thermometer.

1. The melting-point of milk fat (*i.e.*, pure butter) is about 96.5° Fahr., but beef and other animal fats require a much higher temperature to melt them, so that we have here a fairly reliable method of finding out whether any lard, dripping, or other fat has been added to the butter. Again, pure butter melts easily in ether at 65° F., but beef or mutton fat with difficulty, and leaving a curdy residue.

2. Melt a little of the butter in a narrow test tube. If any water or salts are present they will sink to the bottom, the butter fat floating up on the top.

3. The addition of a weak solution of iodine will reveal the presence of any starch by giving a blue colour.

4. Van Lookeren gives the following easy method:—"Thoroughly melt in an iron teaspoon a small quantity of the butter, and pour a drop of it into boiling water contained in a watch glass. Upon the water surface a thin film of fat will form, which, if the butter be genuine, will break up into *numerous small* fat globules that tend to collect rapidly at the sides of the glass. Should the butter be adulterated with margarine, etc., the fat film will break up into only a *few large* drops, which will remain distributed over the entire surface of the water."

Margarine.—It would be well for the public to know that under the 1887 Margarine Act it is enacted that "Every package or parcel of margarine exposed or intended for sale must be marked in large letters of specified size, so that any substance not being marked as margarine is supposed to be offered for sale as butter." The penalty for a first neglect of this is a fine not exceeding £20.

Margarine is composed chiefly of animal fats, and may have some genuine butter added to it to improve its appearance or taste. Its cheapness renders it valuable to the poor, and as long as people know that it is only a substitute for, and not genuine butter, it is all right. Last year 1,235,430 cwts. of margarine (or about 3½ lbs. per head) were imported into England.

Cheese is formed by adding rennet (a substance got from the calf's stomach) to milk, which causes the casein of the milk to clot together with some of the cream fat. The cheese is then put away for some time to "ripen." The richness of the various cheeses depends on whether pure milk is used, or whether skim milk only; or whether, as in Stilton, extra cream is added.

Adulterations are not very important, though cotton-seed oil is said to be added in place of cream, or after the cream is taken off the milk.

Eggs.—The average weight of a hen's egg should be about two ounces, and is equivalent to about two ounces of beef as regards nutriment. Eggs contain all that is required by the young, and are more easily digested, if lightly boiled, than when raw or hard boiled.

Test of "freshness."—Good eggs, if looked through against a good light, are clear in the centre; if bad, they are clear at the top and dark at the centre. Or, dissolve four ounces of kitchen salt in a quart of water (10 per cent.), and place the egg in the salt solution. If fresh and newly laid, the egg will sink at once to the bottom. If one day old it will sink, but not to the bottom. If three days old, it will float in the liquid; older, or stale eggs, will remain at the top.

[*The next paper will include the examination of Milk, Tea, Coffee, etc.*]

THE ANTIQUARY'S COLUMN.

MORE QUAINT REMEDIES.*

For such as have the Lunacy.

Take iuice of Periolle and mix it with viniger and putt of it into ye nose with a seringe 2 or 3 times in the daye being bloud warme, and it will remedy the same in 3 or 4 daies.

For a Benommed Member.

Take the leaues of white willowe, and seeth them in faire water, and when they be well sod, then take a quart of viniger and mix the leaues therewith and make a plaister of them and laye it to ye benommed member and it will make hym whole in five or vi daies.

For Deafness.

Take the galle of a hare and mix it with womans milk and putt of it into the eare warme, and stopp it close with black wooll and it healeth in nyne daies.

For a Wound yt hath Perill in it.

Give ye sick to drinck at ye beginning pigell-pagell and sanacle, hearb robar de matfellon, egremony, daisyes, wayebrode, sentory, antorofi, cresses, tanzey, mallowes and hemp, of each alike, mitch mather half as much as of all the rest of ye hearbs, stamp them well, then straine it and lett it coole, then give the wounded to drinck and if he cast it, it is a signe of life, then search ye wound diligently and dress it up. This drinck is good for the fister, canker and many other things, you must give it daily to the wounded man fasting.

For Swelling of anie parte.

Take kamomill flowers, and if you cannot gett ye flowers, take ye herbs, and take newe milke, and putt ye herbs into yt, and barlie meale, if you can gett no barly meale, take otmeale, and seethe all these in ye milk togeather till yt be thick, and then laie it on ye swelling place, so whot as ye patient can indure it, and in twice using ye same it will ridd yt awaye.

*From the "Arcana Fairfaxiana." London: Elliot Stock.

VOICE TROUBLES.

By G. METCALFE, M.B., B.S. (Dunh.), L.R.C.P., Lond., M.R.C.S., Eng., Surgeon to the Newcastle Throat and Ear Hospital.

STAMMERING.

I UNDERTOOK to write a paper on the voice, and have headed the article "Voice Troubles"; but this paper will only treat of stammering. Stammering and stuttering usually occur together in the same person, and it is of no consequence to differentiate the one from the other.

It begins during childhood, commonly from unconscious imitation of an older person, and grows gradually worse until about the age of puberty. It is not frequently noticed after middle age, because by that time most patients have undergone treatment, and because the affliction tends to disappear after middle life. It occurs much oftener in males than in females. I have only observed one female stammerer during the last three years at the Throat and Ear Hospital; whereas at the present time I know of seven males so afflicted within a stone's-throw of my own house. It is more common than is usually supposed, as slight cases are not noticed by the general public. It is frequent in Germany, but is unknown in China.

Causes. — No deficiency or alteration of structure, peculiar to stammering, has ever been found in any of the organs taking part in the act of speaking, and each organ is able to perform its functions properly and efficiently; for a stammerer does not stammer when singing, whispering, or swearing; when alone, or in the dark; or when asked to do so. But when he attempts to speak to others, his vocal organs do not act together.

The brain conceives the intention to speak, and creates the will which sets in action the cerebral nerve centres for respiration, phonation, and articulation (a nerve centre is a minute portion of the brain substance set apart for a special purpose)—normally these act together in perfect harmony. But when a stammerer inspires before speaking, the brain does not at the same moment send down its impulse from the medulla oblongata through the phrenic nerves to the diaphragm, which remains relaxed, instead of contracting and descending, and so enlarging the capacity of the chest, and distending the lungs with air; as a result of this, the breathing is of the clavicular type, instead of the abdominal and costal type.

When the inspiration is taken, the brain fails to emit its impulses, at the same moment, from the centres controlling expiration, and the laryngeal muscles; then, either expiration occurs, but no sound is formed, or the vocal cords are put into proper position for phonation, but the breath is held; in neither case is voice produced, and then occur the gasping efforts of the patient to overcome the difficulty.

When voice is produced, the organs of articulation do not keep time with those of phonation. He closes his lips too tightly in the act of forming the *p* and *b*; or his tongue and teeth in forming *t* and *d*; or his tongue and palate in forming the *k* and *g*, etc.; and so prevents the vowel sound from following out immediately after. In his efforts to overcome the stoppage, he neglects his laryngeal mechanism, and becomes absorbed in that of articulation. He wrongly concentrates his energy through the articulating centre, upon the muscles of the oral cavity, thus causing spasm, and aggravating the stop; then occur stuttering repetitions in his attempts to get the syllables out. Thus, there is want of co-ordinating power in the nerve centres, which regulate the harmonious working together of the organs of respiration, phonation, and articulation.

There is generally weakness of the respiratory organs; the patient begins to speak with his lungs either too empty or too full of air, and the volume of air issuing from the lungs is seldom of sufficient intensity. The voice and muscles of the larynx are always feeble; and also those

of articulation—namely, the tongue, lips, and palate, as shown by indistinctness and slurring of words when not stammering; the vowel sounds are too weak, and not sustained, whilst the consonants are too pronounced.

Rhythm, an essential factor of fluency, is always absent from the speech of stammerers, even when speaking without impediment.

Treatment.—The treatment of the affection is hopeful, provided that sufficient perseverance and time is given to it; some months are required, and great care is afterwards needed to prevent a relapse into old habits.

In former times various cutting operations were performed upon the tongue, which effectually cured the patient as long as his mouth was closed for repairs; such treatment is never dreamt of nowadays.

Any condition of the nose and throat which hinders respiration or speech must be remedied before the muscles can be trained to perform their functions rightly. Any condition of ill-health, causing mental irritability and nervousness, must be cured before the co-ordinating power of the mind can be improved.

The treatment proper should begin with gymnastic exercises which strengthen the diaphragm, and train it to contract properly during inspiration, which form the habit of expiring slowly and continuously, and without any waste of breath.

Then exercises which strengthen and give command over the laryngeal muscles are practised, and which accustom him to give increased power to his vowel sounds.

After this he practises gymnastic exercises of the muscles of articulation—that is, of the tongue, lips, and palate, so as to acquire control over them, and form the habit of pronouncing the consonants lightly, and throwing the voice into the succeeding vowel.

The intelligent practice of the above exercises acts indirectly as a mental exercise in co-ordination of the respiratory, phonatory, and articulatory brain centres; and the co-ordinating power of the brain can also be directly developed by mental exercises, just in the same way as any other mental function can.

Finally, the patient is given elocutionary training in rhythm and poise; and he must learn to constantly employ this quality in his speech. A dodge often made use of by elocutionists is to instruct their pupils to "beat time" with the hand whilst speaking; this gives a rhythmic style to the speaker, and greatly helps to avoid stammering.

The methods which charlatans use to obtain success are—charging a high fee, exacting an oath of secrecy, imparting the common rules of breathing and articulation, which are to be found in any book on elocution, reading daily in a loud voice, and the recommendation to utter a slight vowel sound, such as *a* or *e*, on beginning to speak, and to carry it on into the difficult syllable—a trick which every stammerer knows.

All persons with this affection should endeavour to get cured, if not for their own requirements, at least for the sake of their children, who learn to speak by imitating them.

The medical profession is bestirring itself in this matter, and we hope that in future its treatment will be conducted in a rational and scientific manner.

I will treat of other affections of the voice in a future paper.

HINTS FOR THE SICK-ROOM.

Disinfection after Sickness.

As we have previously remarked, cleanliness is the first essential in preventive disinfection; it is also the great but not the only measure where there has been an infectious malady in the house. Before the final and thorough cleansing of the sick-room any infectious matter should be utterly destroyed.

First, the patient or patients should be thoroughly bathed, and in the case of eruptive fevers this should be repeated every night or two, to assist the "peeling" and remove the

dead skin. It also helps to keep down the danger of infection if the skin be smeared with weak carbolic oil (1 in 100). Immediately after the final bath, the patient, dressed in a complete change of clothing, should be taken into another room, leaving everything worn during the illness, or otherwise infected, in the sick-room.

Then the clothing, bedding, and hangings should either be placed in a disinfecting chamber and submitted to a very high temperature, such as proves fatal to any infectious matter, or they should be left in the room during the process of fumigation, which is as follows :—

Close every opening of the room, such as the fireplace, windows, keyholes, and doors, padding the latter with rags or sheets to prevent the escape of fumes. Then place a pail half full of water in the centre of the room. On this rest a strong shovel with some red-hot cinders, and put thereon from half to one pound of roll sulphur broken into small pieces. If this does not at once take fire, light some matches and put them upon it, being meanwhile careful not to breathe any of the fumes. As soon as the sulphur has fairly taken fire, retire and close the door thoroughly, and keep the room shut up for twenty-four hours at least. At the end of that time open the windows and doors and flood the place with fresh air for a long time.

Then commences the cleansing. All the wood-work, metal-work, and floors should be washed with carbolic soap. Clothing should be first steeped in a weak solution (1 in 100) of clear carbolic acid, then washed as usual. Any article which has been worn next the skin should be burned if of no great value.

Flood the whole house with fresh air, and the drains with plenty of water tinged with permanganate solution; and your purification may be then called complete.

THE total number of lung cells possessed by one individual is estimated at 1,144,000,000. The extent of the surface of the membrane lining these cells and tubes in the average human lungs extends over 1,500 square feet.

QUERIES AND COMMENTS.

JUNO.—To trace conditions of body or mind to their physical causes does not justify you in charging us with materialism. We answer you and several previous correspondents in a special article.

MOTHER.—We do not give medical advice. No, do not ask a chemist; his business is not to treat disease, but to carefully and skilfully prepare medicines.

H. J. B. C.—We regret we do not see our way to accede to your request. That would be placing the public under the necessity of applying to you.

A. C. (Gateshead) asks, "What is the opinion of the profession on singeing the hair, an operation so commonly recommended by hair-dressers? Also, what are the best means to prevent baldness?"—Will some of our medical readers kindly reply to this? We may inform A. C. that we have a personal interest in the answer, as we feel certain the thin places on our editorial head are widening.

TIT-BITS.—Unless otherwise mentioned, every article appearing in the *Health Messenger* is written expressly for its pages. We do allow short paragraphs which have appeared elsewhere, if we think them interesting to our readers, but even then we like to acknowledge the source, and usually do so.

The Health Messenger.

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LITERARY CONTRIBUTIONS *and Correspondence should be addressed to THE EDITOR, 20 West Grainger Street, Newcastle-on-Tyne.*

NEXT month's issue closes our volume, and we remind you to look up the back numbers for binding.

IT is very pleasant to us to receive from our readers so many expressions of hearty appreciation. We trust they will continue to encourage us.

IN this age of haste and scraps, however, it is difficult for a paper whose aim is not merry amusement to "catch on" with the many. And while we have reason to be proud of our wide circle of readers, who are to be found already in every country and colony where English is spoken, we earnestly desire to enlarge our list.

OUR readers can render us valuable aid in this. Will those of them who like, and look forward to the appearance of, the *Health Messenger*, make it a means of communicating with and at the same time benefiting their friends? The subscription is 1s. 6d. a year (sent by post); and if the absent friend is made to know who is sending the first number, each successive month will recall the sender to his grateful remembrance.

DOMESTIC, SOCIAL, AND PERSONAL.

Fish Bones

and rabbit bones are apt to be overlooked by children, and up to the age of ten little ones should be constantly warned of the danger. Not only should they be taught to carefully search for and separate the bones before putting a portion into the mouth, but also to turn it over with the tongue, and never on any account to "bolt" food of any description. A habit is thus formed which may save them from choking by accident, and dyspepsia by custom.

IF the child has swallowed anything that cannot digest, particularly if it is sharp, let him eat immediately two or three pieces of dry bread. This is very apt to surround the object swallowed with a sort of coating. In addition, let the food for several days be more solid than usual, and under no circumstances give purgative medicine. The chances are that the child will feel no trouble from the carelessness.

Strange Medicine.

"WHAT'S this, doctor?" said a patient recently, holding up the bottle of medicine given him an hour before by his medical attendant. Alas, after the addition of the active ingredients, the bottle had been merely held to the tap to be filled, and the Newcastle Water Company had supplied gratis a healthy worm six inches long, the sight of which cured the patient's craving for physic. The doctor now uses a filter.

Are You Drowsy

after your mid-day meal? Then eat more cautiously, and be sparing of soup and pudding. Many persons eat to repletion of the savouries, and then manfully struggle through another course of sweets. As Dr. Blair remarks in another page (next month), one may easily eat too much for the capacity of one's machinery. You may deaden the fire with too much coal.

Do You Rizzle?

Do you rizzle every day? Do you know how to rizzle? One of the swell doctors in town says that it is the most wonderful aid to perfect health. "I masticate my food very thoroughly at dinner," he says, "and make sure to have my family or friends entertain me with bright talk and plenty of fun. After dinner it is understood that I am going to rizzle. How do I do it? I retire to my study, and, having darkened the room, light a cigar, sit down, and perform the operation. How to describe it I don't know, but it is a condition as nearly like sleep as sleep is like death. I close my eyes and try to stop all action of the brain. I think of nothing. It only takes a little practice to be able to absolutely stifle the brain. In that delightful condition I remain at least ten minutes, sometimes twenty. That is the condition most helpful to digestion, and is that which accounts for animals sleeping after eating. I would rather miss a fat fee than ten minutes rizzle every day."—*American Exchange.*

Cleaning Bottles.

NEVER use shot in cleaning glass bottles. It leaves a film of lead which is hard to remove, and which renders any fluid put into the bottle unwholesome. Use finely-chopped potato and warm water, shaking rapidly.

Cold Tea to Fight on.

LORD WOLSELEY, who is a great advocate for tea as a beverage on which to do hard work, gave orders that the water-bottles of the soldiers whom he led on the two famous and exhausting expeditions of the Red River, and up the Nile to Khartoum, should be filled with cold tea; and he is convinced that, whereas alcohol induces fatigue, tea will give the power to endure and overcome it.

How to Make Good Tea.

THE evil effects of tea have been attributed to the methods in vogue of making it. We have seen that the soluble theine is at once dissolved in the hot water, but that the tannin contained in the coarser teas generally used in England continues to be given off if the tea is left standing on the leaves. Now, this is what almost invariably happens, and the last cup of tea drawn from a pot long standing, and which is said to be "very strong," is strong, not so much in the restorative principle of the theine, but in the astringent tannin which inhibits or slows digestion, and also in the bitter principle which is finally extracted from the leaves. To the habit, customary among the poor, of slowly stewing the tea on the hob, and also to the practice at restaurants and railway stations of continuously boiling it in urns, much of the dyspepsia attributed to tea-drinking is probably due. The reason is, however, not clear. The professional tea-taster allows the boiling water to stand on the tea leaves five minutes and no more; the infusion is then poured off and drunk. If this custom were universally followed we should probably hear fewer complaints about the evil effects of tea-drinking. In order to prevent the tea standing on the tea leaves, various tea-pots have been invented, by means of which infusion for a certain definite

time can be obtained, and the tea leaves are then withdrawn. The best and simplest method is, in my opinion, to have a fine wire basket, in which the measured amount of tea leaves is placed; it is then closed and dropped into the hot water of the tea-pot for five minutes, after which it is withdrawn. Another method is to have a china strainer under the lid of the tea-pot, in which the tea leaves are deposited, and the boiling water is poured through the strainer. These tea-pots are made in Japan, and are imported in large quantities into this country. I have also seen used in Germany a concave perforated metal measure, which is placed at the top of the cup; this is then filled with hot water. When the leaves are sufficiently infused the measure is withdrawn, and the tea leaves are thrown away.—Mrs. Ernest Hart in the *Hospital.*

Brain or Body.

It is ill with a nation when the cerebrum sucks the cerebellum dry; for it cannot live by intellect alone. The broad foreheads always carry the day at last, but only when they are based on or buttressed with massive hind-heads. It would be easier to make a people great in whom the animal is vigorous than to keep one so after it has begun to spindle into over-intellectuality. The hands that have grasped dominion, and held it, have been large and hard; those from which it has slipped, delicate, and apt for the lyre and the pencil. Moreover, brain is always to be bought, but passion never comes to market.

What not to do.

"Rouxel" has been writing a series of extremely practical articles entitled, "On the art of shortening life." He assails with ruthless hand the errors of living. Drink, over-eating, dress, marriage, education, are all attacked with the keen blade of sarcasm. He quotes endless authorities to prove that water-drinkers live long, were free from gout, stone, diabetes, etc. "Therefore," he says, "be very careful never to drink water, restrict yourselves to alcoholic drinks and strong black coffee." Regarding education, he says that people are always careful to teach their children *words* first and *things* afterwards. He is especially sarcastic about marriage. "Above everything," he says, "exalt the question of money. The absurd thing called conjugal felicity is not of our time; the idea of leaving a healthy, happy, and intelligent posterity is old-fashioned nonsense. Pecuniary interest should be our first consideration."

"Rouxel" tells us with much detail what to do in order to render our lives short, unhealthy, and unhappy. He evidently hopes to arrest by this means the languid public interest in what is one of the vital questions of the day—the question what is to become of the human race when the golden calf is the god worshipped, and a life of self-indulgence and luxury the highest aim of the multitude?

Worry, Drink, and Lunacy.

It is no new thing to hear of the close connection between indulgence in alcohol and the development of insanity. Accordingly we feel no surprise at a statement by Dr. Augustine Planus that a large proportion of the cases of lunacy registered in Paris of late years are attributable to this form of excess. Far more significant is his observation that drunkenness has increased very markedly in the French capital. This effect is, of course, due to a variety of causes. Among these one is of particular interest from its bearing upon the neurotic aspect of the alcoholic dyscrasia. It is the pressure and worry of overwork, probably combined as usual in the like circumstances with irregular feeding and want of sleep. Though felt by all classes of workers, an important characteristic of its action as a cause of alcoholism is its increasing influence among those who labour with their brains. Artists, authors, and especially journalists—a group of persons by no means usually given to excess—are enumerated as having succumbed to the subtle poison; and this result has, doubtless with truth, been attributed to the craving depression of mental fatigue. It is not difficult, indeed, to trace a connection here, and we may accept it as a warning that forced labour is ever prone to become the natural parent of other and worse excesses. The best work, however hard, is always methodical enough to permit of timely rest and of regular nutrition, and the full recognition of this fact is a mere question of public utility which we hope to see more and more widely admitted in practice.—*Lancet.*

THE RELATION OF PHYSICAL AND MENTAL DISEASES form the interesting subject of a recent paper by Dr. H. Grabham Lys. Digestion and mind particularly attract attention. The disorder of either digestion or mind will worry its fellow; irritability of temper may be attributed to indigestion on pretty ordinary principles; there is more difficulty in assigning the principles on which indigestion follows mental disturbance; but there can be no question of the fact. Maybe it checks secretion of the gastric juice. Physiologists do not indeed question a nervous influence on secretion and nutrition apart from vaso-motor change, though the question of separate trophic nerves may still be an open one. Mr. Hutchinson, at a meeting of the London Hospital Medical Society in 1888, dwelt on the influence of emotion on some of the secretions, and more especially instanced cases of persistent dry mouth following some mental shock. A chronic dry mouth would most probably end ultimately in an attack of dyspepsia, as the power of digestion is necessarily weakened when the food is not properly salivated. The physical reactions of mind on body have been too much neglected. Dr. Lys cannot doubt that the imagination has a substantial influence over organisation and function. He believes that on it often depends the efficacy of a remedy. He endeavours to bring home the fact that mind and body are inseparable. There are diseases of body alone and diseases of mind alone, but there are numerous other diseases where the two are closely co-ordinated—some where the mental disturbance is secondary to bodily disease, others where the bodily disease is secondary to the mental disturbance. Alienist physicians continue to thrash out the former class, but general physicians have too much neglected the latter. The study of mental disturbance must afford to each practitioner of medicine not only most valuable indications for prognosis and treatment, but also no small field for that most conservative of all duties—the prevention of disease in the recognition of its cause.

THE ancient Germans, according to Tacitus, had a delicious drink made of honey. It was called "mead," and newly-wedded couples drank it as a beverage, and set it before their friends for a month after the nuptial ceremonies had been performed. For this reason the period of four weeks following the marriage is called "the honeymoon" of the happy couple.

M. FOREL has calculated that the quantity of heat accumulated in the Lake of Geneva during the summer is equivalent to that which would be given out by the burning of 51,000,000 tons of coal.

LEAD-POISONING.—It is reported that complaints have been made by the inhabitants of the Eccleshill and Idle districts concerning the numerous cases of lead-poisoning, said to be due to the action of the water supplied by the Bradford Corporation on the lead pipes. The medical officer of health on investigation found that the houses of most of the sufferers were situated a long distance from the road, or for some other reason had the water conveyed to the houses by unusual lengths of lead piping. He thinks that if the ordinary precautions of emptying the lead pipes in the morning, and of making the service pipes to the houses as short and straight as possible, were carried out, the number of cases of lead-poisoning would be considerably reduced.

To be perfectly proportioned a man should weigh twenty-eight pounds for every foot of his height.

EVERY bee carries his market basket around his hind legs. Any one examining the body of a bee through a microscope will observe that on the hind legs of the creature there is a fringe of stiff hairs on the surface, the hairs approaching each other at the tips so as to form a sort of cage. This is the bee's basket, and into it, after a successful journey, he will cram enough pollen to last him for two or three days. Every one has seen a bee returning home with a little yellow lump on his hind leg, and if the insect is then examined the form of the basket can be easily seen.

WORTH A PICTURE.—Said the small boy to his father on returning from school, "I shan't use Pears' soap any more, papa." "Why, my boy?" "Because it makes the hands soft, and then the pambies are very, very sore."

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

BEGGAR (fact).—"Please can you help a poor woman wi' a spine in her back?"

THE spleen is still one of the debatable organs in physiology. A professor, examining a medical student, put the question: "What is the function of the spleen?" After considerable scratching of the head the student replied that he had forgotten. "What!" exclaimed the professor; "miserable man, you alone in the whole world knew, and you have forgotten!"

A FOWL JOKE.—A mother, observing on her child a slight eruption, remarked that she thought her little girl must have chicken-pox. "I must have caught it in bed then," she replied; "I found a feather there this morning."

DOCTOR (to tow-headed urchin): "How is your mother, Tommy?"

Tommy: "Oh, if you please, sir, she's getting very romantic in her right knee, she says."

SCIENTIFIC PROGRESS.—Doctor: "Troubled with sleeplessness, eh? Eat something before going to bed."

Patient: "Why, doctor, you once told me never to eat anything before going to bed."

Doctor (with dignity): "That, madam, was in 1889. Science has made great strides since then."

A SLIGHT MISUNDERSTANDING.—Doctor: "What! your dyspepsia no better yet? Did you follow my advice and drink hot water one hour before breakfast?"

Patient: "I tried, doctor, but I couldn't keep it up for more than ten minutes at a stretch!"—*Westfälischer Kurier.*

TEACHER (to the class in chemistry): "What does sea-water contain besides the sodium chloride that we have mentioned?"

Bobby Smith: "Fish, sir."

IMITATION THE SINCEREST FLATTERY.—"Imitation is the sincerest flattery, isn't it?" said Mamie to Maud.

"I believe that's what they say."

"That's why I'm going to give Charley an imitation Russian leather pocket-book."—*Washington Star.*

IN A TEMPERANCE TOWN.—First Police Commissioner: "What is the charge against McGobb?"

Second Police Commissioner: "Entering a drug store while on duty."—*Indianapolis Journal.*

OBSERVATION.—"Gentlemen, you do not use your faculties of observation," said an old professor, addressing his class. Here he pushed forward a gallipot containing a chemical of exceedingly offensive smell. "When I was a student," he continued, "I used my sense of taste," and with that he dipped his finger into the gallipot, and put his finger in his mouth. "Taste it, gentlemen, taste it," said the professor, "and exercise your perceptive faculties." The gallipot was pushed toward the reluctant class one by one. The students resolutely dipped their fingers into the concoction, and with many a wry face sucked the abomination from their fingers. "Gentlemen, gentlemen," said the professor, "I must repeat that you do not use your faculties of observation, for had you looked more closely at what I was doing you would have seen that the finger which I put into my mouth was not the finger I dipped into the gallipot."—*British and Colonial Druggist.*

MUSICAL ACCOMPANIMENTS.—The members of a branch of the St. John Ambulance Association not twenty miles from London held a concert. The following is a faithful transcript of part of the programme, the names only being altered:—

1. Selection ... ... ——
THE CRANFORD TOWN BAND.

Treatment of a wound of the scalp, and of severe injury to hand.

2. Song ... "The Six Husbands" ... ——
MR. J. BROWN.

Ready treatment of a broken collar-bone and fractured jaw.

3. Cornet Solo "The Better Land" F. H. Cowen.
MR. P. ROBINSON.

Method of putting up a broken arm in extemporised splints, and treatment of a wound in the chest.

6. Song ... ... "Margarita" ... F. N. Löhr.
MR. F. JACKSON.

Treatment of an injured spine, and method of using stretcher.

9. Song ... "In Sheltered Vale" Frank d'Alquen.
MR. L. TOMKINS.

The protection of a broken leg by extemporised splints, also showing the method of using a stretcher in a 3-ft. coal seam.

We should like to hear the opinion of the St. Cecilia Guild on this strange development of their system.—*Daily Graphic.*

MODERN PHARMACY.

KEPLER EXTRACT OF MALT.

The demulcent action of the Kepler Extract of Malt is one of its most important features. In sore throat, and inflammatory states of the throat generally, it is most grateful, as it allays the irritation, discomfort, and tendency to cough. This same soothing action accounts for the usefulness of the Kepler Extract of Malt in gastritis, gastric ulcer, diarrhœal diseases, and especially in irritable conditions of the alimentary tract in infants. Added to cows' milk, it prevents the heavy curdling, supplies highly valuable nutritive constituents, and causes wasting infants to "pick up."

The Kepler Extract of Malt is excellent to add to cows' milk as a preventive of rickets. Being digestive, by reason of the abundance of its diastase, and soothing to the stomach and intestine, it tends to keep the digestive organs in a healthy state, and thus promote the healthy nutrition of the child.

The Kepler Malt Extract may be advantageously used to sweeten coffee, hominy, rice, cornflower gruels, etc., and is an invaluable adjunct to peptonised milk for invalids and infants.

"It is the best known."—*Lancet.*
"It is by far the best."—*Medical Times and Gazette.*
"It is undoubtedly the best."—*Medical Record.*
"It is delicious to the taste."—*Medical Press.*
"It has the finest flavour of any."—*M.D.*
"Possesses superior diastasic activity."

KEPLER SOLUTION OF COD-LIVER OIL.

This is, according to the BRITISH MEDICAL JOURNAL, "an ideal form for the administration of fat." It is a well-known fact that when fatty material is ingested *en masse* it to a very large extent escapes emulsification during its passage through the alimentary canal. If, on the other hand, it is mixed intimately with other foods, the disintegration process has already been accomplished and the fat is readily acted upon by the secretion of the pancreas, succus entericus, and the bile. Cod-Liver Oil is no exception to this rule, and, according to recent investigations, a very large proportion of the oil taken by a selected number of patients was voided unchanged in the fæces; whereas oil given in a condition similar to the Kepler Solution of Cod-Liver Oil was perfectly absorbed, and merely a trace of fat only was discovered unchanged. The Kepler Solution contains a very large percentage of Cod-Liver Oil, the remaining part of it consisting of a rich and nutritious Extract of Malt. Everything considered, this preparation is one of the most perfect foods and resuscitating agents it is possible to prepare. THE LANCET reports: "It has hardly any of the taste of the oil. Many can take it who could not take the oil." The BRITISH MEDICAL JOURNAL reports: "The taste of the oil is agreeably disguised, its nutritive qualities are greatly increased, and it is rendered easy of digestion." Again, THE LANCET reports: "It is the best known and most largely used." THE MEDICAL PRESS AND CIRCULAR: "The most palatable and easily digested."

KEPLER ESSENCE OF MALT.

We have recently introduced a new food agent and aid to the digestion of farinaceous substances under the above name. This preparation is manufactured by a modification of the KEPLER process for making the well-known **Kepler Extract of Malt.**

The Kepler Essence of Malt contains a large amount of **Diastase** and natural mineral phosphates and a considerable amount of tissue-forming substances. *The immense superiority of this preparation over ale and stout* is at once apparent when the process of manufacture is considered in detail. In making ale and stout the carbohydrates (so valuable as nutrient material) and the diastase (a most important principle of Malt, being of special service in errors of nutrition accompanied by digestive derangement) are sacrificed for the production of alcohol; whereas *in the Kepler Essence of Malt these are carefully preserved intact.* This Essence is therefore an ideal aid to digestion and nutrient agent. **A wine-glassful of the Kepler Essence of Malt contains more elements of nutrition than a pint of the finest alimentary stout.**

The flavour of the Essence of the Malt is delicious. It is admirable as a table beverage when diluted with aërated water, and as an addition to milk for infant and invalid dieting; for it sweetens it and facilitates its prompt and perfect digestion. The Essence may be taken in coffee, gruel, aërated or plain water, wine, or mixed with any farinaceous pudding. As an addition to the food for young children its value cannot be overestimated. It increases the value of all farinaceous food and prevents the starch in such food, and large clots of curd in milk diet, overtaxing the power of the digestive functions.

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As a Linctus, the Essence of Malt Food, swallowed slowly, in the troublesome, dry, laryngeal cough, and the hacking cough of puberty or consumption, is pleasantly grateful and soothing, aids digestion, and builds up the tissues.

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TO THE BUSINESS MAN.

ON ADVERTISING.

ALTHOUGH on the battlefield the bullet that finds its billet in a human heart is no bigger than a child's thumb, yet so many of these are wasted in the general fire, that it takes

A man's weight in lead

to kill him. But if your men are sharp-shooters, like the hunter in Canada, or the Boer of South Africa, nearly every bullet finds its mark.

So is it in advertising. If you have a *genuine* health speciality, either in food, medicine, toilet, or clothing, and you advertise it indiscriminately, you spend the full value of your probable sale. Hence weekly papers with huge circulations are frequently found of no use to advertisers. But if your speciality will *stand the scrutiny* of the medical profession, of chemists, and of scientific and high-class intelligent people generally, then appeal to them through such mediums as the *Health Messenger*. Such is the character of the readers that nearly every copy is studied and commented on. Every bullet finds a billet.

Those who choose to make use of the advertising pages, however, must not expect miracles. One manufacturer, who, by good fortune, had directly *traced* thirteen orders from traders to a single small insertion in one of our issues, expressed a doubt whether it would eventually pay him to continue. We did not argue with him. Our advertising pages, we may say, are especially valuable for the announcement of articles of utility and health suitable for *good class families.*

THE NEWSAGENT

who finds any difficulty in obtaining supplies of the *Health Messenger* is requested to write informing us who is his wholesale Agent, and we will remove all obstruction.

THE PUBLISHERS.

Ancient Table Ware.

SPOONS were used by the Egyptians in the seventeenth century before Christ, and have also been found at Pompeii; but this utensil was not generally used in France until the close of the fourteenth century.

Forks first appeared in the Middle Ages as a curiosity, and were first used upon the table by Henry III.

Glasses were in vogue in the fifteenth century, although tin drinking vessels, beautifully made, continued to be used on ordinary occasions.

Hints about Baby.

A SUCCESSFUL doctor says that a healthy infant will take water every hour, and be the better for it. The less rocking, tossing, patting, combing, coaxing, teasing, and promiscuous kissing an infant is obliged to endure, the better his health and good nature. See that he sleeps in a cool room, with mouth shut and head uncovered. If you wish to rest at nights, think how you would swelter between two giants, and do not put the baby to bed with two grown people. Have all garments loose enough for comfort at throat, arms, waist, and wrists, and be sure to have the shoes and stockings large enough. A child should not be given meat until he is two years old. Do not try to teach a child to stand. He will stand by himself when his body and bones are in condition. Use no starch on any of his clothing, and keep his bibs dry, if you have to change them every half-hour.

Beauty that does not Fade.

WHEN a girl adopts a plan of self-improvement she begins usually with her complexion or her figure; but let us in confidence betray a beauty secret that deals not in cosmetics or lotions, that does not tend to injure the skin or fatigue the body, yet which adds more genuine loveliness to a woman's heart and mind than all the contents of the little jars and cut-glass bottles on my lady's toilet table could ever hope to effect. Become a cultivated reader. Seek out the best, whether poetry, fiction, or history, and you may depend upon it that such a course will do more towards making you a charming and delightful companion for those who appreciate the beauty of intellect than the fleeting power of a beauty that is not backed by brains.

Theatre-Goers

should always take a good meal before the play, otherwise faintness or uneasy hunger prevents full enjoyment. The late diner has here a great advantage.

The Health Messenger.

—:o:—

HEALTH NEWS AND STATISTICS.

AN OBJECT-LESSON.

THE Ice-god is upon us, and it becomes us to pay him due reverence and regard his laws.

* * *

THERE are infidels and scoffers who do not believe in him, or who think that in these days of science one may cast off his livery, and eat meat that is not consecrated to him.

* * *

BUT they fight vainly. Every ray of sunshine that falls on the cotton-clad races of the south, as well as the brilliant aurora that lights the northern heavens, tells us that his reign, although not universal, within his own empire is absolute.

* * *

HIS throne is at the North Pole, but he is now in Europe; for, like other gods and emperors, he loves to make holiday and travel abroad. And he slayeth those who deny him, or who, acknowledging his existence, trespass uncovered into his presence, whether they be at his very throne or in "merrie England" at Christmas time.

* * *

NOW our admiration for that brave young Saxon giant, Dr. Nansen, yields to none. To have heard his glowing words is quite sufficient to awaken a warm interest and atttachment.

* * *

BUT we cannot regard it as other than scientific sacrilege, and useless sacrifice, to attempt to "scale" the North Pole.

* * *

WERE there any sufficient human good to be derived from the problematic success of the enterprise, such as there is when a devoted scientist risks his life in investigating disease, or when a sailor or a miner sacrifices his one life to save many, even then we should say—

* * *

DELAY the experiment until the era of the perfectly governed boat-balloon.

* * *

BUT no great human good has to be gained by reaching the North Pole, and we regard the Quixotic enterprise as a regrettable object-lesson in the rigour of nature's laws.

* * *

THE reasons why we look so hopelessly on the voyage are both experiencial and astronomical. We know that from the equator towards the pole, modified here and there by air and water currents, the temperature becomes colder and colder, not only on account of the

direction of the sun's rays, but probably also from the decreased velocity of the earth's motion. The ice-capped poles of Mars add some force to the argument.

* * *

DR. NANSEN himself has experienced the difficulty of maintaining the conditions of life even in Greenland, and notwithstanding his theory of currents, the intensity of cold will inevitably increase as he approaches the pole.

* * *

EVERY provision is being made, however, by the intrepid explorer for propitiating the Ice-god. Every inch of space, every ounce of weight, is being calculated. He is working out the chemical theories of food in a practical manner, by testing and choosing every article of diet according to its heat-giving or its foot-pound value. He is taking Frame Food Extract to sustain muscle and prevent scurvy, and Bovril for energy and stimulant. Alcohol he disbelieves in.

* * *

ABUNDANT provision these will be against the fat-hunger, from which his expedition suffered so intensely in crossing Greenland. The pemmican he took on that occasion was deficient in fat, and he describes the intense craving aroused in these high latitudes for that heat-producing food.

* * *

BUT while saying our say on the dangers of the expedition, and regarding it as an object-lesson in human endurance of physical hardship not quite justified by any expected results even of a successful issue, we do not grudge our high admiration for the intrepid explorer, and since we cannot turn him from his purpose, we heartily wish him good-speed and a safe return in due time.

* * *

NEXT YEAR'S CHOLERA.

THE authorities in Russia, we are informed, have made up their minds that the spring of next year is to witness a recrudescence of the epidemic reduced to abeyance by the advent of winter. The Red Cross Society is accordingly enrolling the names of all the volunteer nurses they can get, while the Government is offering "fairly attractive stipends" to senior medical students who are prepared to hold themselves in readiness to attend to the sick. To established practitioners, whose distribution in the provinces in case of need may be made to a certain extent compulsory, the Government also offers remunerative terms, and pledges itself to grant substantial pensions to the wives and families of such officers and assistants who may succumb to the disease.

FOOD WHIMS AND FANCIES.

BY THE EDITOR.

How seldom is it recognised that the capacity for future health is not only built up in children by the food they are reared on, which becomes bone of their bone, but by the habits of feeding which they acquire. We do not mean the perfect mastication—the "twenty bites to a bit" to which we generally attribute in great measure the hale old age of our veteran Prime Minister. We refer to the habit which can be formed in all children—of taking without demur whatever food may be put before them.

Most children will, if permitted, object to many kinds of food which they have not tasted before, and if their refusal be allowed to pass once or twice, they become confirmed in the belief that they "cannot bear it." Especially is this the case if they are encouraged in their fancied dislike by hearing parents or friends say—"So-and-so cannot take this; indeed, never could." The child comes to take a sort of pride in its dislikes, as if they gave it some distinction over other people.

In this way we have known persons grow up with a fancied incapacity for eating one-half of the choicest and most wholesome dishes. Not only does this render them very difficult people for a hostess to entertain, but by narrowing the range of their food-supply it deprives them of the undoubted advantage derived from "variety" in nourishment. The palate wearies of constant repetition, and the appetite and the body at once suffer. Thus the tissues are daily robbed of that which would do them good merely because of food-fancies, not natural, but acquired.

But it is in times of sickness that this habit tells most seriously against the individual. The doctor and the nurse know out of what dishes they will most readily get heart-force, lung-force, nerve-force. They ply the system with material to form blood, to produce heat, to nourish tissue, or to stimulate certain organs or nerve-centres. But when they learn that

eggs make the patient bilious, that he doesn't like milk, that rice was a thing he could never taste, that barley made him sick, that beef-tea did not agree with him; and that the only things he ever fancies are a cup of tea, a kipper, a bowl of "brose," or a suet-pudding, then they know that the most valuable agencies in his recovery are either denied or used at a disadvantage. For even if under pressure of danger the dishes objected to are administered, there is experienced an amount of difficulty and disagreement which tells against the patient, which tries his strength by irritating his nerves.

In certain conditions every ounce of suitable nourishment means "an ounce of time" added to the life of the sufferer, and if the strength can be maintained until the crisis be past, his life is saved. But if, owing to food-fancies, there be irritation and delay and difficulty in giving frequent support, the chances are all against an easy recovery.

We may appear to put the matter strongly when we say that there is no wholesome article of diet, properly cooked, which any child cannot be taught to take. Some mothers will say "That may be true of some, but my child is so delicate in his appetite," etc., etc. This is mostly nonsense. If children are allowed to eat without stint at all times between meals, they will naturally object to nine things out of ten when they come to the table. Their stomachs will become so "delicate" that they can only take bread and butter or pastry. But if the times of their eating be reasonably regulated, a seasonable hunger will enable them to enjoy almost anything. If a certain vegetable or other dish be objected to, a wise parent will still insist on *a little* of it being taken whenever presented, and by-and-by the dislike will disappear. Of course we should not in any circumstances compel a child to make a full meal off what it apparently dislikes. But the tastes can be easily trained by small portions and by degrees.

Now several exceptions and cautions require to be mentioned. There are articles which really disagree with some stomachs. Porridge, for example, is a frequent source of "water brash," of acidity, or of severe headache; therefore, although it is an excellent and nourishing dish, common sense would, where necessary, stop its use. This, however, is not a "fancy" at all, but a fact in digestion. Then again, dislikes may arise from a dish being badly cooked, or presented too often, *ad nauseam*. Here the fault is with the cook or the caterer, not with the appetite.

No single kind of food is sufficient to nourish the human body after the age of infancy, and where the diet is restricted to a few articles there is a strong chance that something is omitted which would contribute to the stability of the constitution. It will generally be found that for a man's vital range and capacity to be great, his food range must be wide; and on the other hand, the man who can only eat this and that is easily knocked down. Therefore train the children into health by giving them abundant variety in their food, and by curing them of whims and fancies.

Comforting an Invalid.

Look hopeful, never despairing. When requested to read the news, omit the death list. Tell only the pleasant tidings; there is no fear of forgetting the evil. Sigh, if you must, after leaving the sick-room, not in the presence of the sufferer. Leave stiff linen cuffs outside—in England, where they are fashionable, if you like. Refrain from telling about a similar case in which the invalid died a shocking death. Let every article of food be delicately dished, taking only small, tempting quantities. Make the most of the luxuries at hand without expatiating upon the charms of the unattainable. If your sick ones think the curtain is green when it is really blue, what harm in allowing them to think so? Don't contradict.

Good Advice.—Miss Plumleigh (choking): "Oh, Mr. Dudekin! I—I really think I've swallowed a dreadful fly! What shall I do?

Dudekin: "Deah girl, better swallow some fly-papah."

PREVENTION *VERSUS* CURE.

By A. Blair, M.B.

(*Continued.*)

Attention to the skin in more ways than in its covering is one of the most important factors in the prevention of disease, and if neglected, one of the most potent causes of derangement of function which so often results in organic disease. The skin, regarded as an organ, is one of the most important in the human economy. Its principal function beyond protection is that of excretion, though to a slight extent, even in mammals, it takes part in respiration also. The other excretory organs of the body are the kidneys, bowels, and lungs. If, therefore, the action of the skin is not healthily maintained, one or all of those organs must take an excessive compensatory action, which means increased blood supply, and once more we are on the high-road to disease. Most of us are familiar with the story of the child whose naked body was gilded over, in order that it might be carried to represent an angel in front of a procession. In about eight hours the morsel of humanity was dead. The complete check to the functions of the skin was incompatible with the continuance of life. Now, for a portion of each day, certain classes of workmen—notably miners—are to some extent in the condition of the child, though the gilding is done by means of black diamond dust; and probably the average longer life enjoyed by miners above most labouring classes is to a certain extent due to the daily washing of the entire skin, thereby stimulating and promoting its function.

One word as to the influence of diet in the prevention of disease. We are constantly told that because a man has to work hard he must eat well, which means that on every occasion on which he sits down to meat he must eat till he feels that comfortable sense of distension so dear to the heart of the typical Englishman. This reasoning is founded on entirely false physiology, and the maxim should rather read, Because a man has to work hard he should keep his vital functions in the best possible condition, and this is not attained by stuffing his stomach with food, no more than is his health maintained by such treatment, for the stomach being unable to deal with the promiscuous mass introduced into it, products of partial digestion are passed into the blood, because of the disturbed assimilation, and as a consequence, the vital organs are not nourished with pabulum as pure as it ought to be, and the poor kidneys and liver are forced to eliminate products other than those of complete digestion, which cause irritation of their delicate structure, if not actual disease, while the morbid effect upon the economy is such that the poor individual takes a leap out of the frying-pan into the fire by resorting to "stomach" and "liver" pills. In the case of children improper dieting—both in kind and degree—is carried to a still greater excess, and this, I am convinced, is one of the direct causes of our high infant mortality acting in two special dircctions—viz., the production of convulsions—of which there is no more prolific source than disordered digestion—and of diarrhœa.

One thing more in conclusion. It is the effect of mind and body. Sir Andrew Clarke has pointed out the influence of our modern undue work and worry in depriving the stomach of its rightful share of nerve force, and so causing it to fail in its duty. Dr. Andrew Coombe showed how mental stimulus influences muscular action, and indicated the influence which the higher feelings, after they have the ascendency, exert in promoting the general health. He has explained how the lower feelings, when unrestrained, how the mind oppressed with grief, anxiety, or remorse, have a direct tendency to produce bad health. But he goes further. As we are not all intellect, we must not concentrate our vital action in the brain, or we shall deprive the stomach and other organs of their requisite nervous stimulus. Literary men especially, by disregard of this axiom, often become hypocon-

driacal dyspeptics, and blame the art of medicine for not curing by drugs what is the outcome of their own violence to physiology. We have the warning of many wise physicians against the life of wear and tear led by so many Englishmen, especially the restless activity of mind ever directed to one end often not the highest.

Physiology has pointed the moral, and doctors have preached—mayhap without practising—the doctrine of serenity, but too often they have been as voices crying in the wilderness, for no man regarded them, and the reproach of the almost certain disregard of their teaching is laid at the door of medicine. The terrible cost of nerve tissue, as George Henry Lewis aptly said, is disregarded even by the wisest. "Our passions are destroying flames." This is sound teaching, and doctors have endorsed it. The evil influence of anxiety on digestion alone is well ascertained, but as we cannot counteract it by drugs, we are blamed for incompetence. The whole teaching of modern medicine is in the direction of a better regulated mode of life, prevention rather than cure, or if cure, more by an association with offended nature than a warfare against disease with medicine, for when disease has taken deep root even in this our day, alas! alas! how often do we doctors, to use the graphic words of West, come to a sick chamber day by day to be but "idle spectators of a sad ceremony, and leave it humbled by a consciousness of the narrow limits which circumscribe the resources of our art."

Tobacco.

Tobacco is becoming quite popular in the medical world. On the one hand we hear smoking recommended as a safeguard against cholera, and on the other hand we are told by a medical man that his experience goes to prove that tobacco smoke, as inhaled by the habitual smoker, retards or prevents the development of the bacillus of tuberculosis in the larynx and lungs of the smoker. The same doctor states that during a practice of twenty years he does not remember one case of consumption in the habitual smoker.

PUBLIC HEALTH PAPERS.

By Charles J. Russell McLean, M.D., M.C., Edin. Univ.; Diplomate in State Medicine and Public Health; Fellow of the British Institute of Public Health; Fellow of the Society of M.O.H.; Medical Officer of Health to the Yeadon Urban Sanitary Authority, etc.

No. VI.—FOOD ADULTERATION.

Tea consists of the dried leaves of various species of the plant *Thea*, one of the Camelliaccæ order, and forms two varieties, known to the public as *black tea*—such as Pekoe, Congou, etc.—and *green tea*—*e.g.*, Gunpowder, Hyson, etc. These varieties are not the products of different plants, but differ only in the time of picking and the mode of preparation of the leaves of the same plant, black tea consisting of leaves which are allowed to lie in heaps for some hours before being dried; whereas green tea, which is composed mostly of the youngest leaves, is dried at a higher temperature directly after plucking. Formerly all teas came from China, but now India and Ceylon supply probably half the markets. All teas contain an active principle or alkaloid called theine, an astringent substance (tannic acid), and a volatile oil. The green teas are stronger in these substances than the black, and besides them we have albumen, cellulose, and other matters present, as well as salts of potash, soda, etc.

As an article of diet, tea, as it is used in ordinary amount, contains very little nutriment but at the same time acts as a valuable stimulant to the nervous system, and refreshes and restores bodily vigour in that way. Its action as a stimulant differs from that of alcohol, in that it is not followed by a period of depression. If used to excess (chiefly seen amongst women, and especially amongst the lower classes of these), it invariably leads to a state of chronic dyspepsia and also emaciation, because the appetite and desire for food becomes destroyed. Many people make a habit of taking tea at dinner, which, if composed of meat, forms a most indigestible mixture, due to the tannic

acid of the tea forming an insoluble compound with the albumen of the meat.

As an article of diet for soldiers on active service tea is very useful. It is easily carried, can be easily "made," is a good restorative when fatigued or cold, and also can be used to purify bad drinking water—the tannin in the tea acting beneficially on the impurities. Parkes reports that "In the north of China, especially during winter, the water of the Peiho becomes very impure, and that the Chinese never drink it unless made into tea, and that in this way they avoid the otherwise bad effects of the water."

Good Tea should be clean, not mixed with dust or dirt, and should have the remains of the stalks and even of the flowers present. It should not be broken up too finely. The aroma should be pleasant in the dry state, and should persist when infused with hot water. The infusion should not be dark-coloured, nor very bitter to the taste. Parkes gives the following method of making an infusion as practised by tea dealers—"Take as much tea as is equal in weight to a new sixpence (*i.e.*, about 46½ grains), and dissolve in about 5 ounces of boiling distilled or rain water." This is nearly equal to about 9 grains of tea to each ounce of boiling water. "The solution must then stand five or six minutes before smelling and tasting."

Adulterants.—These are various, such as exhausted tea leaves; the leaves of other plants such as the privet, oak, hawthorn, willow, sloe, etc.; but of these the two latter alone resemble the tea leaf. Hassall has found sand and magnetic oxide of iron in samples of China tea. Old exhausted tea leaves have been found to be "doctored" by mixing with catechu powder or another red mixture called "La Veno Beno," and then steeped in a solution of gum or starch, so that when dried they would curl up like good tea. Such a mixture would have none of the fragrance of pure tea, and most likely a deposit of catechu powder would be found at the bottom of the cup.

The product known as "tea dust" has been found in New York to be composed of tea with a plentiful admixture of sand, etc. Its importation into Canada has been forbidden by that government.

Black tea is often coated with black lead, and green tea with indigo or Prussian blue. Much less green tea is now sold, probably owing to the fact of the so-called "facing" having been condemned as an adulteration.

Detection.—Test the aroma of the dry and infused tea, and the taste of the latter.

Spread out the leaf and examine with the microscope for any powder, or shake up some leaves with cold water, and examine any deposit found. To detect the admixture of leaves other than tea leaves is important, and can be discovered in the following manner as described by Parkes:—"Infuse the leaves and spread them out (preferably between two thin microscope cover glasses). The tea leaf has a characteristic appearance. The border is serrated *nearly but not quite* to the stalk; the primary veins run out from the mid-rib *nearly to the border*, and then turn in, leaving a distinct space between them and the border." This can be seen with an ordinary pocket lens, and is characteristic of the tea leaf. (See figure.)

Tea. Willow. Sloe.
(*After Parkes*).

A Russian gives the following test as to the genuineness of tea:—"Take a pinch of tea in a

glass, pour on it a little cold water, and shake well up. Pure tea will only slightly colour the water, while a strong infusion is quickly got from the painted or adulterated leaf. Now boil both sorts separately, and let them stand till cool. The *false* tea will become still stronger after standing, but will remain transparent; whereas the *pure* tea will become muddy or milky, due to the tannic acid which is present in pure but absent in artificial tea, causing a pecipitate."

Coffee is derived from the seeds of the *Caffea arabica* (order Rubiaceæ), two of which are produced in a succulent berry. The seeds are roasted and ground to a coarse powder. Less coffee is now used in England than formerly, probably due to the fact that the good article can rarely be got. Many people make a great mistake in laying in too large a quantity of the powder, which soon loses its pleasant aroma. A better way is to buy the seeds and to roast and grind them when required. An ordinary pestle and mortar is sufficient for small quantities. If it is necessary to keep it in powder it should be kept in small tins, so that not much is exposed at a time. As an article of diet coffee resembles tea, acting more as a stimulant and a heat producer, due to its alkaloid Caffeine, than as a nutriment. In India it is used as a cooling agent. Coffee should never be boiled, else the aroma is dissipated. About half an ounce (one tablespoonful) is the proper amount to allow per head.

Good coffee has a pleasant aroma in the dry and infused state; the taste is pleasant, not bitter.

Adulterants.—The commonest is chicory, a plant allied to the dandelion (order Compositæ). The root is roasted and ground. In itself it is harmless, and is an addition preferred by some people. Other adulterations are sawdust, peas, beans, carrots, etc. The addition of chicory may be suspected if on opening a tin we find the contents "caked." It has also a peculiar "woody" smell, and the infusion is darker and has a more bitter taste than pure coffee. Again, if we throw some of the mixture into a glass of cold water we find that if chicory is present, it sinks to the bottom at once, whereas the coffee floats on the top for a long time. Many coffee essences consist in a solution of chicory and coffee rather than of coffee, and the poor beguiled British public imagine they are getting a rich cup of coffee, because the infusion is "nice and dark," due to the abundance of this adulteration.

Cocoa, although resembling tea and coffee in that it contains a somewhat similar alkaloid called Theobromine, still differs much from them in that it contains a much larger proportion of fat (cocoa butter), a yellow substance, which, however long it is kept, never turns rancid, and is useful for making up ointments, pomades, etc.

The cocoa nibs, which are the seeds of the *Theobroma Cacao*, are roasted and ground to powder, but is rarely put on the market until mixed with sugar or starch, though this is not so common as formerly. Other adulterants are alkali, brick dust, peroxide of iron. Hassall found only eight, out of fifty-four samples, to be pure cocoa. The others contained sugar, starch, or other impurities.

As an article of diet, cocoa stands far in advance of tea or coffee, due to the largest amount of fat and albuminoids present. It constitutes a food as well as a drink.

Chocolate is made by grinding the cocoa nibs with warm rollers, which melts the cocoa butter, and forms a paste to which sugar, vanilla, or other flavouring agents are added.

The following table shows the comparative nutrient qualities of tea, coffee, and cocoa, and the advantage of cocoa:—

1 lb. of tea	yields	9 ozs.	of useful	matter.
1 „ coffee	„	$8\frac{3}{4}$	„	„
1 „ cocca	„	14	„	„

THE ANTIQUARY'S COLUMN.

MORE QUAINT REMEDIES.*

For yᴱ Green-sickness.

Take earth-wormes, open them, wash them clean in an ouen and beat them to powder. Give a spoonful in white-wine in yᵉ morning.

For Numnes of Members.

Take and anointe the greefe if it cometh of colde with oile of woodbine, and if it cometh of heat use Populion.

For ye Palsey that draweth ye Sinowes.

Take kowslip rootes and seethe them in malmsey and bathe them therewith where he is drawen, and strike to ye right place as warme as may be suffred, and if he cannot speake, rubb his tongue with newe mustard and pepper, or els with yᵉ same medicine aforesaid, made of stones acre, or with aqua composita and herbgrace and mingle it togeather, and rub ye nap of ye neck with it, and so under ye eares.

For the Emrods.

Take the hoofe of a horsfoote, and redd scarlett, burne them both togeather to powder; take white frankengence, cast this powder on a chafing-dish of colis and sift over them.

For Sore Eies a Remedy most Excellent.

Take rose water, woman's milk, and the white of an egg, beate them togeather and putt of it into the eies, yt taketh awaye the dymness burning, rednes and swelling and cleareth the sight.

To Heale a Fellon or Bile.

Take beane meale and femerick in powder ana 2 ounces, mix it with hony a sufficient quantity and applie it to the greefe morne and even. yt helpeth.

For the Windecolick or the Stone.

Take a quart of muskadell, or malmsey and seethe in it two heads of garlick being peeld and brused, and the rinde of a lemmon or the iuice of one, seething them till half be wasted, then straine it and drinck of it morne and even warme 8 or 9 spoonefulls at a tyme.

For the Migrome.

Take of the galle of an ox and mix it with sanguis dragonis, the weight of an egg, and the powder of a nuttmeg, spread of this in the inner pell of the ox-galle and lay it to the fore-part of the head as a plaister, and lett it lie till it falle of alone, dressing it three times, yt cureth the greefe certainly.

For the Coughe.

Take a pinte of clarett wine, hony 10 ounces, of annisseede in fine powder 8 ounces, boil these to the forme of an electuary and use it morne and even, 1 ounce at a time.

*From the "Arcana Fairfaxiana." London: Elliot Stock.

THE "HEALTH MESSENGER."

Subscribers should note that this month's issue completes the volume. Subscriptions (1s. 6d. per year, post free throughout the world) should therefore be renewed at once, and should be sent to the Newcastle Office. See first page.

THE EAR AND THE TELEPHONE.

Dr. Ellis, of Newcastle-on-Tyne, in an instructive popular lecture delivered in the Town Hall, Houghton-le-Spring, "On the Ear and Hearing," this month, gives the causes of deafness and the occupation of patients in 10,000 cases from his hospital note-books, beginning in 1878, as follows :—

Causes of Deafness :—Neglected colds — measles—scarlet fever—diphtheria—typhoid fever—accumulation of wax — teething and defective teeth — scrofula — deficiency of wax—convulsions—enlargement of tonsils —rheumatism—influenza—quinsy—typhus, and allied fevers—gout—heredity—explosives—fright—blows on head—vicious lives of parents—marriage of cousins—railway whistles—grief and anxiety—over-study.

Occupation :—Boiler makers—fitters—miners—blast-furnace men — glass makers — machinists — riverside occupation — building trades — lead workers — farm servants—seamen—railway men — tailors — shopmen—domestic servants—shoemakers—school teachers—cabmen—clerks—corporation labourers—printers—hawkers —grooms—barmen—gardeners—sea-going engineers—waiters—students—scholars.

Dr. Ellis shows that the use, or, at least, the frequent use, of the telephone is detrimental to the hearing in some cases, and his observations in the main agree with those made by Professor Lannois, of Lyons, to the International Congress of Ear Specialists at Paris in 1889, which go to show—

1st. The very frequent use of the telephone does not seem to have any serious effect on the healthy ear, but is hurtful to an ear affected by disease.

2nd. The effects produced consist of diminution of the hearing power, subjective noises, headache, giddiness, nervous excitability, and even mental derangement.

3nd. Those effects are often temporary, and disappear as the person becomes accustomed to the use of the instrument.

Dr. Ellis very forcibly contended that more consideration should be shown to such a valuable and important organ as the ear, especially as to children's ear-ailments, for, when neglected, there is no saying when they will end or what they may end in.

Since the above was printed we observe that the *Lancet* draws attention, in the current issue, to the "Telephone Ear."

QUERIES AND COMMENTS.

Medical Diary for 1893.—We have received Messrs. Burroughs, Wellcome, & Co.'s Medical Diary and Vinting List for 1893. It is well known and well named the A.B.C., as it easily provides for every daily want in the way of information for the busy practitioner. Indeed, with this little book, and his pencil, the practitioner might save a large amount of home labour in the way of bookkeeping. The diary is published jointly by Messrs. Letts and Burroughs, Wellcome, & Co, whose therapeutic extracts and notes are most valuable and reliable.

A Health-Restoring Land.—The province of Mendoza, one of the fourteen in the Argentine Republic, and from which the capital of the same province takes its name, is one of the few places in the globe that gives a helping hand to phthisical persons, as it is an undoubted fact that the climate of Mendoza exercises a marvellously beneficial action on weak or diseased lungs. Therefore I, as a resident (though not for my health at all, am glad to say) in that province for fifteen months, will give a few notes upon it, which to those who are affected with the above-mentioned disease will be beneficial, and perhaps the means (as you will note later on in this) of saving their lives, if the step is taken in time, and money for the South American trip is no object.

Persons whose lives were refused by insurance offices could be mentioned, and those upon whom the sentence of death was passed by the doctors, but who by a residence among the mountains (the Andes) of Mendoza have become strong and healthy. But it must not be too late, as a dear friend of the writer's, who was in a very advanced stage of the lung disease, arrived up from Buenos Ayres (capital of the Argentine Republic, a distance of 300 miles by rail—two days' journey), but did not improve, and which was soon seen after he had been there nearly a month.

The pure and dry air peculiar to that region is the fame of Mendoza, and is spreading far and wide. In a letter published some time ago in a native newspaper of Buenos Ayres was a statement that a native of that city went to consult our great London physician, Dr. Morell Mackenzie, and was told by the eminent professor that his best chance of life was to return to his own country and reside in Mendoza.

The province in question is the principal vine-growing and vine-making district in the whole of Argentina. That of San Juan, adjoining the Mendoza province, is also another large *districto de vinas* (vine district). Thus the sufferers can procure the best grapes, red and white. When out at a friend's *vina* (vineyard), I was accustomed to roam before six o'clock in the morning in amongst the vines, "tucking in" until such time was good to give over. The best time to eat fruit, especially grapes, is well known to be in the morning early, and I never used to forget it when opportunities occurred.

There is a sanatorium constructed on the slope of the lower range of mountains near Mendoza, and provided with all necessary appliances for comfort, according to the English meaning of the word, and with a resident physician.

During the period from 1st April 1890 to March 31st, 1891, 339 days were absolutely without rain, and of these there were only 24 when the sun was obscured by any cloud during the whole day.

The average summer heat in the shade there is about 120 degrees. F. W. N. Lodia.

G. K. Y. writes:—"Have received specimen free copy of *Health Messenger*. Don't like the grammar; also jokes are rather stale. Send another free copy, and if grammar is improved and jokes fresh will perhaps sub-

scribe." Thanks, G. K. Y. What do you charge for lessons in grammar, and where did you learn it? We have three clothes-basketsful of brand-new jokes, but cannot find a paying market for them. *Tit-Bits* carefully chooses out the fresh ones from our pages each month without remitting any half-crowns. A leading Edinburgh weekly appropriated eight of ours one month, three of them being "positively first appearances." We like to encourage modest criticism, so send you another copy.

The Health Messenger.

LONDON: 24 WARWICK LANE, E.C.

LITERARY CONTRIBUTIONS *and Correspondence should be addressed to THE EDITOR, 20 West Grainger Street, Newcastle-on-Tyne.*

THE responsibility of parents in cases of infectious disease in their families was recently shown at Bury. A child "peeling" from scarlet fever was allowed to go messages and to associate with other children, with the result that several other cases were distinctly traced to contact with him.

* * *

THE mother had made a statement to the doctor that "if the other children had to have it, they would have it." The magistrates were not so fatalistic in their views, so they imposed upon the rash and superstitious mother a fine and costs, with the option of a month's imprisonment.

* * *

TWO cases of lead-poisoning, occasioned by hair dyes, are reported by Dr. O'Carroll to the Royal Academy of Medicine in Ireland. Neither of them proved fatal, the symptoms in each case having abated after the use of the hair-dye was discontinued. Another case was mentioned where symptoms of "plumbism" were observed to follow the regular use of a leaden comb.

* * *

STILL another source of lead-poisoning. The men employed in making, cleaning, and recoating plates for storage batteries have been found largely susceptible. Out of thirteen men employed by one firm, it is alleged that four of them have suffered from this malady in six months. Fume closets and rubber gloves are the most likely means of prevention. Special respirators for lead works are also made by Mawson, Swan, & Weddell, Newcastle.

* * *

OUR usually cautious contemporary, *The Hospital*, asks, "Is it such a very wicked and heartless practice to sell paregoric with opium purposely omitted? A herbalist summoned recently for selling the drug without any opium in it was acquitted because the tribunal and witnesses, as Mr. John Attfield, F.R.S., has pointed out, were under the impression that paregoric is not in the British Pharmacopœia, whereas it has been included since 1888. The wickedness appears to lie chiefly in the harm done by unauthorised vendors to the legally qualified druggist, whose trade is taken from him by the *insatiable desire to have cheap drugs irrespective of their purity.* Apart from this it is better that quacks should sell paregoric without opium than with too much."

* * *

Now, as the *Hospital* should remember, the Pharmacy Act was passed for the protection, not of the chemist, but of the public. The wickedness of adulteration lies not in the harm done to chemists, but in supplying a medicine destitute of one of its essential ingredients. We also differ from our contemporary in thinking it better that quacks should sell paregoric without opium than with too much. No one sells it with too much. The question was between having none at all or having the proper quantity, and we think it much safer, even when paregoric is used without medical prescription, that it should contain its strongest ingredient, even although that is a poison. And for the following reason:—

* * *

ONLY a few weeks ago, in Newcastle, the police received intimation that a man had attempted suicide by drinking a bottle of laudanum. When questioned by the magistrate, he said he was in the habit of taking this drug, and had frequently drank more than on the present occasion without the slightest ill effect. But having purchased this quantity from a well-known firm of chemists instead of from a little grocer's shop, he thought it must be "extra good stuff." The man had been accustomed to adulterated laudanum, and when he bought the genuine article he took too much, and almost lost his life. This shows a common danger of adulteration.

THE MODERN CHEMIST.

Dispensing Gratis.

Two months ago we had something to say about chemists' prices, and showed that these were not based altogether upon the bare first cost of the ingredients. The preparation, the time, the skill and care exercised, are important items, and any one professing to charge nothing for dispensing prescriptions would lay himself open to the suspicion by intelligent people of being either untruthful or untrustworthy. They

would naturally infer that if he gave away his skill as a matter of business, he must have a very poor opinion of it, and that it was not worth much. The shoemaker does not make up boots free, nor the tailor coats, and those who excel in these arts very properly charge for making garments exactly to your fit and requirements. Now this exactness is of much greater importance in the making of physic, in that the body is of more value than the clothes. Curiously enough, however, the people who will readily pay a considerable sum for patent medicines puffed in the newspapers by a person whom they never saw, and who can have no knowledge of their special wants—these are just the people who would grudge a much smaller sum for a prescription recommended by their own doctor, who is the one most likely in all the world to know what is best for them.

The Chemist a Safeguard.

It has become quite the rage for weekly and monthly periodicals to publish in their correspondence columns advice upon medical subjects. It is a daily occurrence for the chemist to receive cuttings from these papers, with a request to make them up; and he frequently asks, "How are you going to use this?" For while the amateur prescriber has the world on his side, he has the (printer's) devil and the flesh to contend against. The signs and symbols of pharmacy are as a closed book to the aforesaid devil (begging his pardon), and we have known him to read the signs for "one and a half drachms" as "three ounces," which, to say the least, might have been awkward for the patient.

The amateur himself (or herself), however, is not always perfectly versed in the potency of drugs. A newspaper correspondent recently recommended Glonoin (nitro-glycerine) of the strength of 1 in 100 to be taken in teaspoonful doses. Now as the full dose of that strength is one drop, the unfortunate reader who wished to follow the advice would have been hastily shot into eternity but for the chemist, who persuaded him against it. Only yesterday we read in the column of a fair contributor to one of the monthlies, "Equal parts of cantharides and rosemary rubbed in the hair is a simple and certain remedy for thin patches on the temples." A simple and certain blister all over the scalp would be the more certain result.

Now it is fortunate for the public when they cannot get these prescriptions supplied except through a fully qualified and intelligent chemist, who stands between them in their ignorance and the newspaper correspondent's folly. Even in selling the most harmless drugs, the value of the chemist's knowledge declares itself. A lady of our acquaintance, being advised by her doctor to give her baby a little manna in his food, bought an ounce at a place where the shopman could not tell her how much should be given at a time, but thought "about half of it." The lady, knowing her baby's system to be very obstinate in its resistance to medicinal stimuli, put the whole ounce into a single "feed" of milk. Very shortly afterwards the doctor was called in to account for the extraordinary results, which the mother did not for a moment dream of attributing to the overdose of manna.

Those who try to "cheat the doctor" by writing to the papers for advice, have only the chemist to save them from their folly. He follows his calling with care and anxiety, expecting little, and getting less, in very many instances, than an ordinary mechanic. Coroners, who know nothing of the law affecting the sale of poisons, have recently been liberal in their censure, because some chemists have, in a perfectly legal manner, supplied poisons which have been turned to criminal uses. But the public hears nothing of the hundreds of cases where the chemist, by observing precautions which the law does not require, and indeed could not define, baffles the would-be murderer and suicide until their purpose and passion have faded away.

DOMESTIC, PERSONAL, AND SOCIAL.

Damp Feet

should be especially guarded against in school children, who have to sit still for an hour or two. Try "goloshes."

Managing Words.

In managing children, when you consent, consent cordially. When you refuse, refuse finally. When you punish, punish good-naturedly. Commend often. Never scold.

Water Heated by Gas.

Only a short time ago a young man was found dead in a bath-room, through ventilation not having been provided for the gas-apparatus which heated the water.

Forenoon Tipple.

Better than beef-tea, better than port or porter, is a large cup of milk sipped as hot as possible. It acts both as a stimulant and a food, without interfering with the full capacity for immediate work. Cold milk will not do.

Christmas Indigestion.

It is not so often the quality of Christmas fare which disagrees with you as the quantity. The dishes are usually both extra in quality and quantity. But the solid Englishman, thinking a bird in the hand worth two in the bush, repletes himself with bird and accompaniments; and when the other courses appear, he does his duty manfully, however painfully, just to show his appreciation of the cooking. He should be temperate in all things, beginning with the goose.

Meat Strength.

We cannot have too much of a good thing. The Bovril preparations are specially suitable for cyclists and those who require something to counteract the extra strain put upon the system in marches, runs, expeditions, camps, etc., as they contain in the smallest possible bulk the greatest amount of staminal nourishment. Dr. Nansen, the commander of the projected Artic expedition, is fully alive to its value, and he is taking a large quantity to help to support his staff through the fatigue and rigour of an Artic winter. So Bovril has every likelihood of being known from pole to pole. Miss Marsden, the heroine of the leper colony, also appreciates its merits: she has ordered some for use among her patients. As Bovril has become a household word, no household cupboard is complete without it.

Bad Air and Wits.

Some persons are peculiarly susceptible to bad ventilation. With cool nerves, steady brain, and clear ideas we entered, one afternoon lately, an apartment which, when the door is shut, is almost an air-tight box. A gas-stove was burning, and before ten minutes had passed, the power to think or argue had disappeared. Plainly the first symptoms of asphyxiation.

Sleep, Gentle Sleep.

The average amount of sleep required by children at

4	years	old	is 12	hours.
7	,,	,,	11	,,
9	,,	,,	10	,,
12 to 14	,,	,,	9 to 10	,,
14 to 21	,,	,,	9 to 10	,,

The anæmia, bloodlessness, weakness, and hysterical excitability that characterise the young lady of modern life, who is neither well nor ill, are due mainly to her bad habit of taking too limited a supply of sleep at irregular hours.

Pure Water.

To drink pure water is the custom of the natural man; to drink impure water is the almost invariable habit of the civilised man. In the days of the Greeks, the Romans, the Egyptians, and the powerful and interesting races of India and Asia Minor, the provision of pure water for the people was looked upon as a national obligation, and the ruins of the great aqueducts by means of which the water of mountain and sky and lake was carried immense distances to the cities, to-day cumber the ground, whence the people now draw their water supply from polluted wells. It is only of recent years, and not till the ravages of cholera and typhoid had at last taught the people and the municipal authorities the lessons which the sanitarians had never ceased to preach in season and out of season, that the absolute necessity of a perfectly pure water supply for drinking purposes was recognised. In London the water supply is derived from the Thames, the Lea, and the New River, rivers which receive sewage and filth of every description during almost the whole length of their course. Elaborate and costly precautions are, however, taken by the water companies to get rid of all the unwholesome and dirty particles with which the water is more or less charged. This is done by filtration and by the formation of large filter beds. Nature's way of cleansing polluted water is twofold—either to pass it through immense filter beds of gravel, under which it collects in underground reservoirs,

which may be naturally tapped by "faults" in the strata, or by shafts purposely sunk, which lead to the formation of springs of pure water; or by means of the flow of a river, during which the solid particles sink to the bottom, and the organic pollutions, such as germs, etc., are oxidised and destroyed. Spring or well water often contains inorganic materials dissolved out of the soil through which it has passed, such as lime, iron, etc. River or stream water is the pleasantest to drink, as it contains much air and a small proportion of organic salts, which give it an agreeable flavour; but so long as it is not considered a crime against humanity and the State to pollute a river or stream, river water is dangerous to drink unfiltered.—*Hospital.*

COMICAL AND CHEMICAL.

COLLECTED, OVERHEARD, OR COMMUNICATED.

WHEN did Adam take his first sleep? When Eve came.

DINNER FORESTALLED.—The man who was "filled with emotion" hadn't room for his dinner.

MRS. VERMONT BROWNE: "Why on earth don't you get your husband to cut off his whiskers?"

Mrs. Smiffian Jones: "I wouldn't have him do it for the world. I want him to let them grow and get them all out of his system."

MR. CHIPPS (looking up from the paper): "The doctors have discovered another new disease."

Mrs. Chipps: "Well, I wish they would stop looking for new diseases long enough to find a cure for my old rheumatism."

OLD DOCTOR: "You have cured your patient. Now what are you worrying about?"

Young Doctor: "I—I don't know which one of the medicines cured him."

HE: "There's a good deal to be said in favour of cremation." She (shivering): "Yes, indeed. It's so clean and nice and—warm."

A FORLORN Irishman, reduced to the last stage of poverty and destitution, as the last resource made inquiry at a marine store as follows:—

"D'ye buy rags and bones here?"

"Yes," was the reply.

"Then, be jabers," says Pat, "ye may put me on the scales."

HE was a bad writer. Mrs. Green (to young physician whom she had called in haste): "Oh, doctor! doctor! I fear you have made a terrible mistake! My daughter had that prescription which you sent her last night filled, and she took a dose of the medicine. Now she exhibits every symptom of poisoning. Oh!"—Young physician: "Prescription, madam? Why, that was an offer of marriage."

"I DON'T think it's exactly fair for my teacher to keep me in because she can't read my writing," said Willie. "It isn't my fault if she doesn't know how to read."

THE German tradesman who advertised that he would give ten boxes gratis of his cocoa to any one who could show him that it is injurious to health must have hailed originally from the Emerald Isle. Applications for the proffered present are not likely to be overwhelming.

A TEACHER was conversing with his pupils about the five senses and their importance.

Teacher: "Suppose we had to be deprived of one of our five senses, and we were at liberty to choose, which of them could you most readily dispense with, Fitz Lehmann?"

Fitz (recently chastised for misbehaviour, and rubbing the part affected): "Feeling!"

MR. IRVING was taking a holiday in a village in Dorset last summer, when he came across a number of children coming out of school. One little girl stood and looked him in the face, as though she had seen him before. After a time Irving said, "Well, little girl, do you know who I am?" "Yes, sir," was the reply; "you are one of Beecham's pills." The little girl had seen his face in one of Beecham's best-known advertisements.

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